EU- KONFORMITÄTSERKLÄRUNG
EU DECLARATION OF CONFORMITY
DÉCLARATION DE CONFORMITÉ UE

CE

Hersteller/Manufacturer/Fabricant:

Agfa-Gevaert AG

Leverkusen/Germany

AGFA FP 200

Film Processor

8500/310

Europäische Vorschriften • European directives • Directives européennes

73/23/EWG: Niederspannungsrichtlinie • Low Voltage • Basse tension
89/392/EWG: Maschinenrichtlinien • Machinery • Machine
89/336/EWG: EMV-Richtlinie • Electromagnetic compatibility • Compatibilité électromagnétiques

Angewandte harmonisierte Normen • Applied harmonized standards • Normes harmonisées appliquées

EN	VDE	IEC
60950-A2:1993	0805-A2:09.94	950-A2:1993
55022:1987	0878-3:11.89	
60801-2:1993	0843-2:03.94	801-2:1991
	0847-3:02.88	801-3:1984
	0843-4:09.87	801-4 (Draft)
61000-4-11:1994	0847-4-11:1995	1000-4-11:1994
61000-3-3:1995	0838-3:03.96	1000-3-3:1994

Gültig nur für den Geräteoriginalzustand • Valid for the original delivery condition only • Seulement valable pour l'état original de la machine

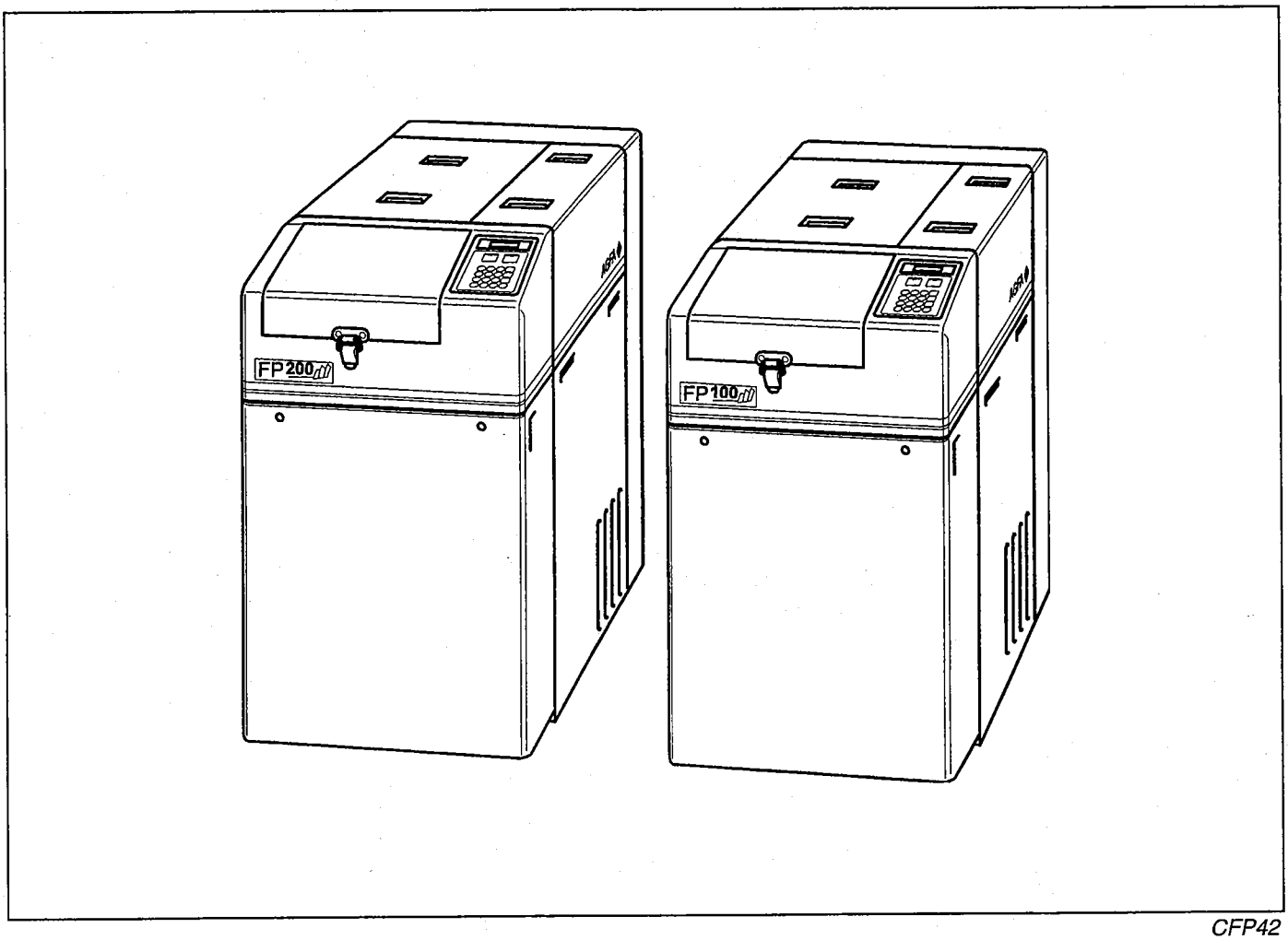
..... 09.07.1997

Dr. W. Nitsch
Head of Business Unit Lab Equipment
Agfa-Gevaert AG • GB Foto/GF Laborgeräte

AGFA

TECHNICAL DOCUMENTATION

DD+8510311B010E



CFP42

AGFA FP 100, FP 200

Film Processor FP 100

TÜV Type 8510/311
UL Type 8510/350

Film Processor FP 200

TÜV Type 8500/310
UL Type 8500/350

Operation

Edition 15.10.97

List of Registers

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General	15.10.97	1
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Maintenance	15.10.97	3
Troubleshooting	15.10.97	4
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Overview of the Technical Documentation

The list of existing documentations is published in the **DD+...overall view**.

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General

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Intended Use

The Film Processors FP 100 / FP 200 should only be used to process negative films.

Note In order to ensure troublefree operation and optimum performance:

1. Install, operate and service the machines as instructed in this Technical Documentation.
2. Be sure to follow the instructions and notes given on the various machine labels.

Safety Precautions

Warning

The non-observance of these instructions may endanger persons, machines and buildings: Injuries, electric shocks, fire.

In case of Maintenance / Repair

- Be sure to switch off the machine before carrying out any maintenance work
- Please respect the local safety precautions
- Use only original Agfa spare parts when replacing parts: only these parts have been tested for their safety and usability.
- Maintenance jobs / the removal of parts / covers not described in this Technical Documentation must not be performed by the user. They are only allowed to be carried out by authorised service technicians.
- Repairs on electrical assemblies must only be performed by authorised 7Agfa technicians
- When replacing electrical components:
  Please observe the data given on circuit diagrams and connecting schemes
- At the end of all servicing and maintenance jobs:
  Check the entire function of the machine and the correct condition of the safety devices

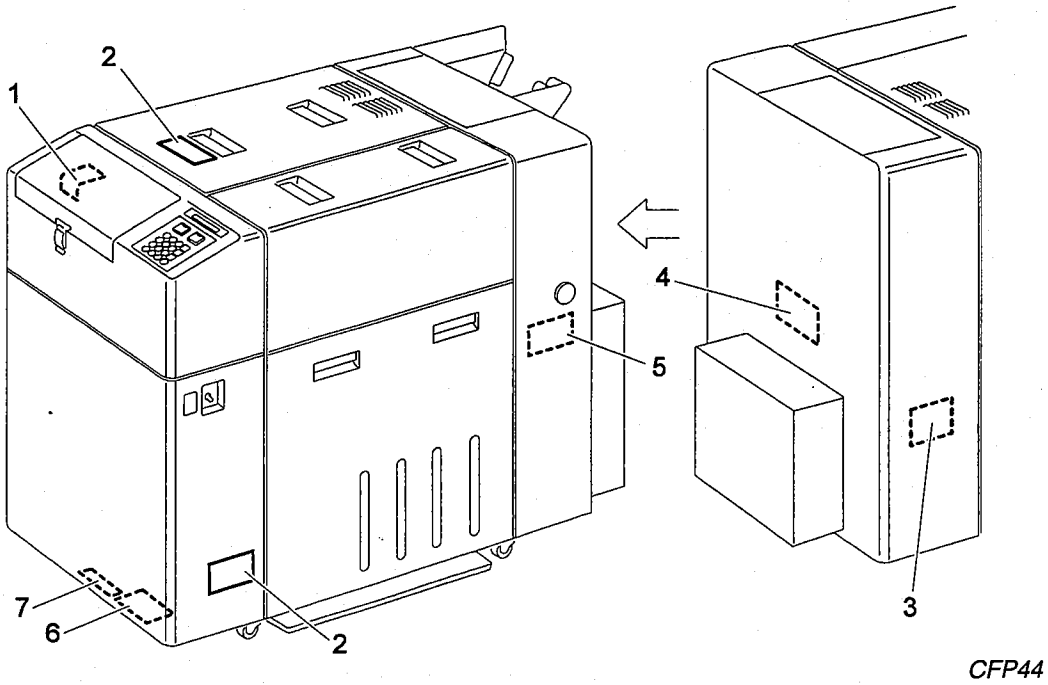
During Operation

- Do not operate the machine without covers and panels
- Never cover or block the ventilation holes in the housing

Machine Labels

Warnings and instructions given on machine labels must be followed by all means.

With the symbol ⚠	TÜV Position 1 - 6 UL Position 1 - 7	Attached to the machine
Without a symbol	Operator instructions	Attached to the documentation



CFP44

Safety Devices

- Built-in safety devices must not be bypassed or made inoperative
- The presettings on safety components must not be modified
- Fuses that have blown must only be replaced by the same type of fuse (value, switch-off characteristics).
- Never modify the electrical circuit

Disposal

The machine must be disposed of as industrial waste.

Legal Situation

The operation of the machines is ruled by the appropriate regulations for the place of installation in force in the country concerned.
The Documentation includes a EU conformity explanation (CE) about the harmonised standards applied.

Note The manufacturer or the service cannot be held responsible for accidents and damages due to improper handling.

Handling Photochemicals

Legal Regulations

Film Processors are subject to the legal regulations about water:

- Photochemicals are not allowed to be drained off into the public sewage system.
- It must be checked whether residual substances can be avoided, reduced or recycled.
- All photographic solutions as well as plastic containers holding harmful residues are considered to be special waste.
- When storing spent processing solutions, it must be made sure that no waters are polluted, e.g. by unintentional leakage.

Note The regulations about the handling and correct disposal of chemistry are different in each country. Information about the regulations in force can be obtained from:

- the country's authorities in charge
- the nearest Agfa subsidiary

Storage / Handling

The chemicals should be stored and prepared according to the manufacturer's information and advice.

Disposal of spent Processing Solutions

The processing solutions used in Film Processors are usually only slightly water endangering (Water endangering class 1). For this reason, these solutions can be stored in commercial containers for photochemicals until their final disposal. For larger tanks, a conformity certificate is usually required.

Disposal of liquid Residues

All solutions that cannot be reused or that do not contain recyclable substances (film developer) are to be disposed of as special waste.

Argentiferous solutions (bleach. bleach fixing, fixing, stabiliser solutions), in contrast, are liquid residual substances that can be used for silver recovery. For this reason, they should be collected separately from the other solutions.
The disposal of argentiferous solutions should be ensured by fixing bath recycling firms that are normally also authorised to dispose of non-argentiferous solutions.

For tank cleaning, cleaning agents based on peroxides are recommended. If these substances are used as prescribed, the local regulations about the draining of waste water are kept. This means that the cleaning and rinsing water of the tank cleaning can be drained into the public sewage system.

Disposal of the chemical Containers

Rinse them with water used for the preparation of the baths and provide for their recycling.

Safety Precautions for the Handling of Chemicals

The work with Film Processors involves the handling of slightly poisonous, irritating and etching substances. The user of an FP 100 / FP 200 (employer) has to elaborate operation instructions for the handling of dangerous substances and provide for instruction of his staff at least once a year.

Apart from this, the user must ensure sufficient aeration. The air in industrial workrooms should be exchanged at least eight to ten times per hour.

All photographic developers contain substances which may irritate the skin, the mucous membrane and the eyes and which may cause allergic skin reactions affecting very sensitive persons. For this reason, avoid long or repeated skin contact, especially with developer solutions.

For all jobs where photographic processing solutions may splash (e.g. preparing and filling in chemical solutions, cleaning processing racks etc.).

- Wear protective gloves and change them every day, if possible;
  rinse all solutions that get on the skin with plenty of running water
- Wear industrial glasses:
  If in spite of this, splashes do get into your eyes, wash them immediately with plenty of water, pulling apart the eyelids. Consult an oculist!
- Store chemicals and processing solutions in a safe place.

Technical Documentation

Safety Instructions

Caution

Low risk.
Potentially dangerous situation. May cause minor injuries to persons or damage to property.

Warning

Average risk.
Possible danger. May cause severe injuries to persons or death.

Note The words Caution and Warning on all machine labels (with the symbol / without a symbol) also warn you of the risks indicated here.

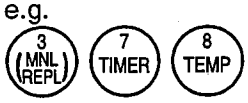
Explanation of Symbols

▼ Prerequisite

❑ Operational steps

- Step 1
- Step 2

Keyboard commands = press the indicated key(s):
e.g.



Display texts (letter font: Courier)
e.g.

```
Pre-operation
 checking
```

■

Operation

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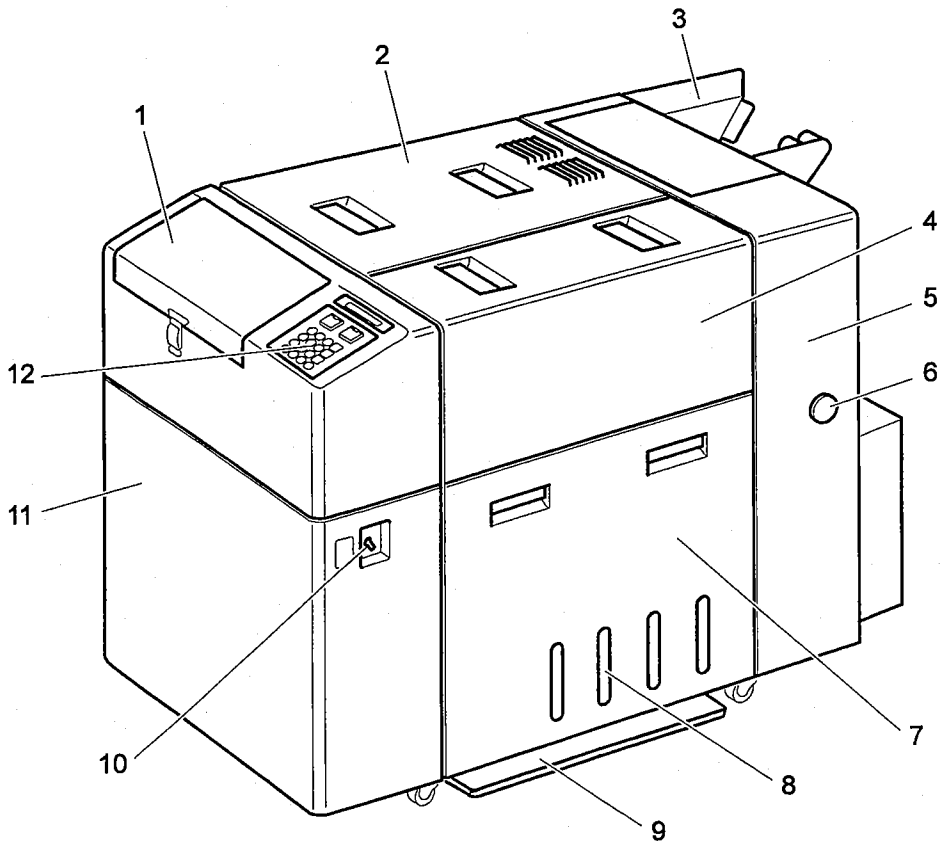
Overview

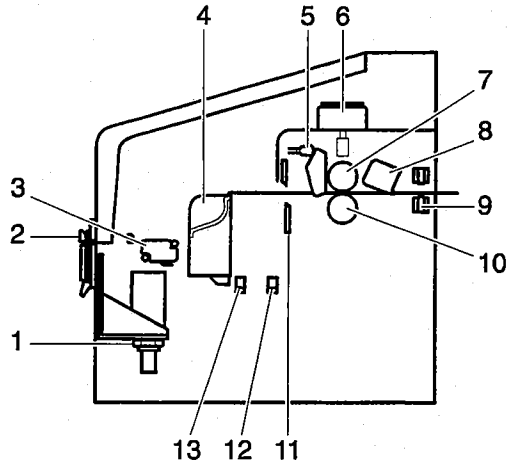
Front



CFP24

1 Film set box
2 Top cover
3 Short leader receiving box
4 Temperature control tanks
5 Dryer
6 Crank handle in case of a power failure
7 Effluent tanks
8 Replenisher tanks
9 Base tray
10 Main switch
11 Control electronic and CPU with DIP switches
12 Control panel with 16 keys, DRIVE switch and RUN switch

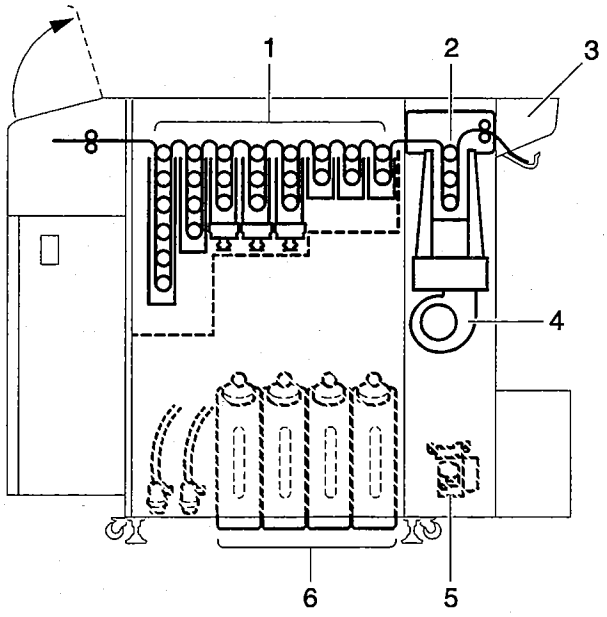
Film Set Box



CFP14

1	Film set box lid closing magnet	7	Pressure roller
2	Lock	8	Light shielding gate
3	Lid detection (microswitch)	9	Film detection sensor
4	Film cartridge holder	10	Drive roller
5	Short leader detection sensor	11	Film cutter
6	Pressure solenoid	12	Cutter sensor
		13	Push roller sensor

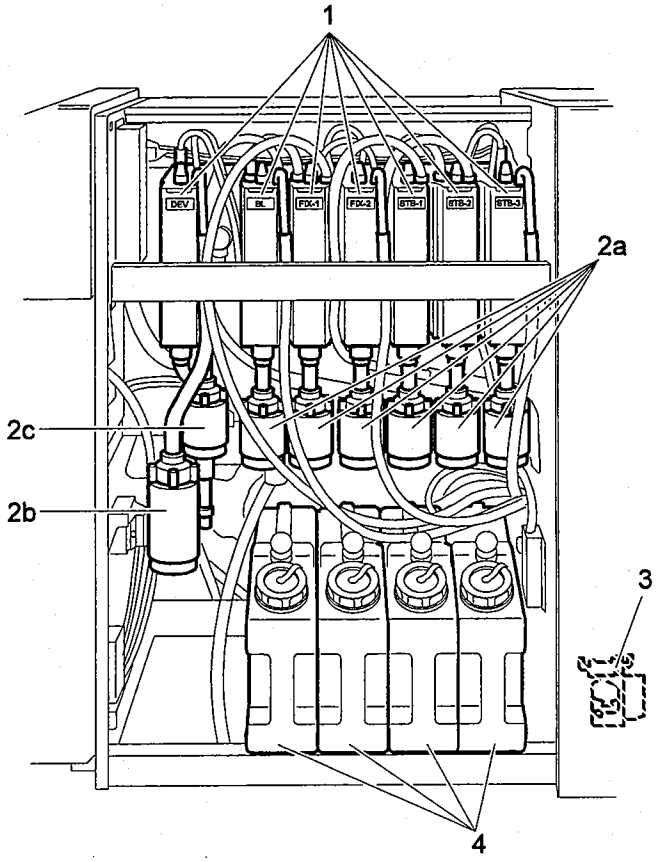
Transport System



CFP15

1	Processing racks 1-8	4	Dryer
2	Dryer rack	5	Replenisher pumps (bellows pumps)
3	Short leader receiving box	6	Replenisher tanks 1-4

Processing, Replenishing and Circulation Systems

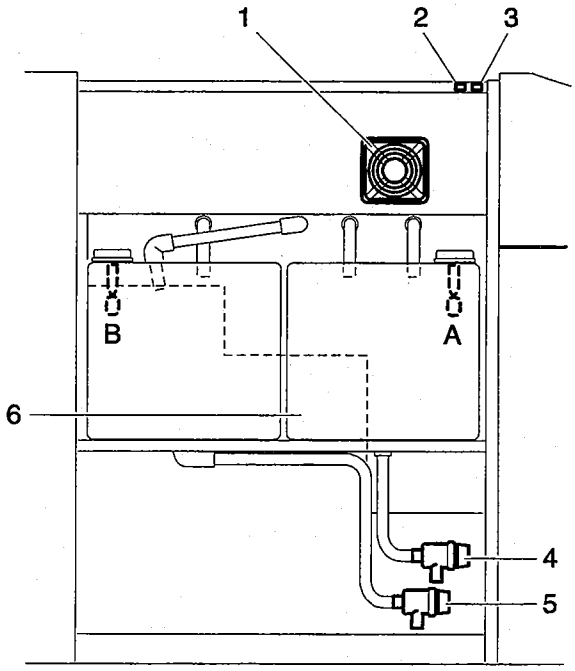


CFP17

1	7 temperature control tank s	DEV, BL, FIX-1, FIX-2, STB-1, STB-2, STB-3
2a	6 circulation pumps	BL, FIX-1, FIX-2, STB-1, STB-2, STB-3
2b	1 agitation pump	DEV-1
2c	1 circulation pump	DEV-2
3	4 replenisher pumps	DEV, BL, FIX, STB
4	4 replenisher tanks with floater switches	DEV, BL, FIX, STB

Effluent Tanks

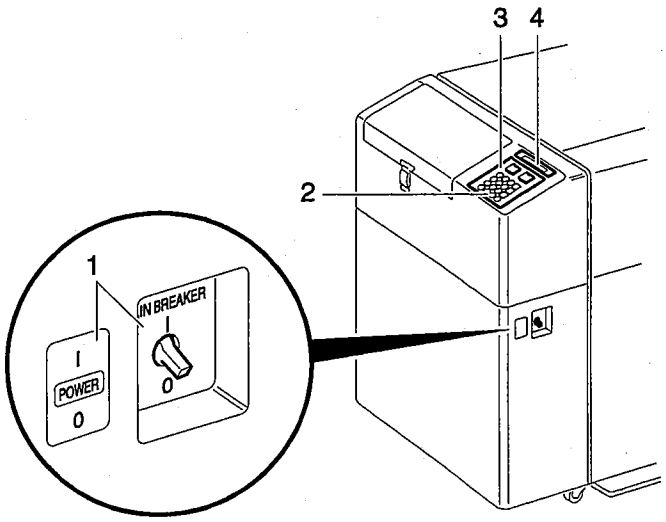
Machine back



CFP18

1 Exhaust fan
2 Switch cover
3 Safety switch
4 Drain valve A
5 Drain valve B
6 Effluent tanks - floater switches

Control Section



CFP19

1 Power switch (Main Breaker)
ON Switch position = up
OFF Switch position = down

2 Operation unit:
Keyboard with 16 keys

3 Switches:
RUN
DRIVE

4 Display unit:
Indication of commands and data

RUN / TIMER Switch

Switch	Green lamp	Meaning
RUN	lights	RUN is pressed to activate the machine to heat up; the display shows when the machine is ready to operate
TIMER	flashes	TIMER mode: The main switch is ON. The preheating is switched on at the programmed start time.
RUN / TIMER	OFF	Machine in Standby

DRIVE Switch

Switch	Orange lamp	Meaning
ON (depressed)	lights	The drive system is running: Drive motor, dryer fan and heater working. If no film is fed, the heater switches off after 16 minutes, the fan continues for another 3 minutes.
OFF	OFF	The drive motor and the dryer heater switch off, the dryer fan continues for another 5 minutes.

Display

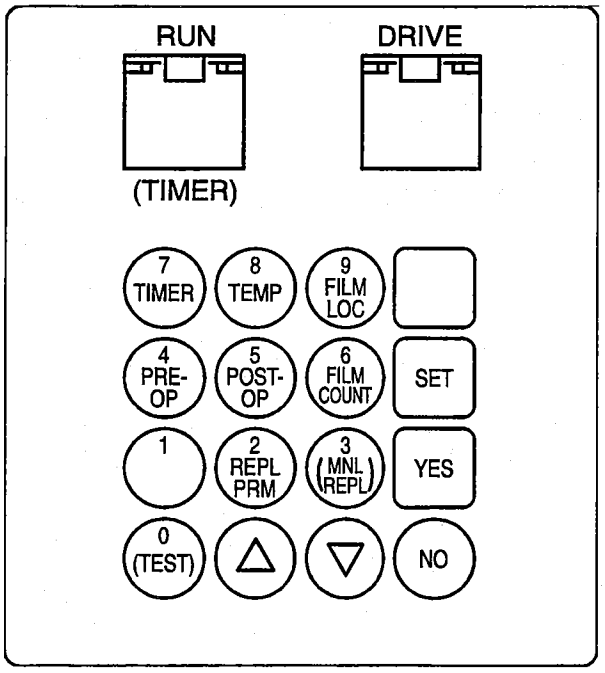
FP 200
4 lines of 20 characters

Example:

```
DEV pumping amount
      90ml/min

                  50
```

Control Panel



CFP01

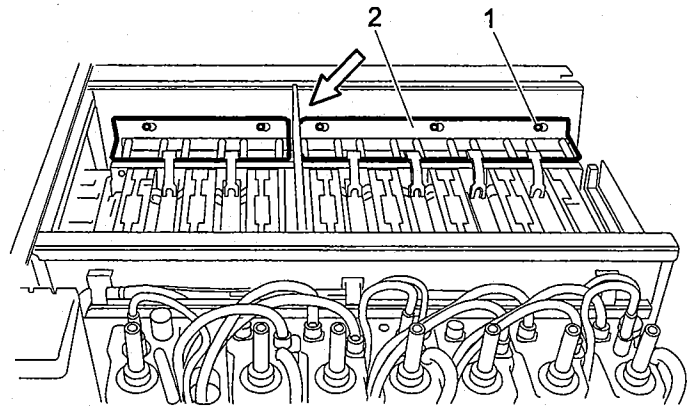
Operation Keys

No.	Key	Function
1	0 (TEST)	- Check of the program version - Status/function test - Entry **0**
2	1	- Entry **1**
3	2 REPL PRM	- Definition of the basic replenishment amount, replenishment rate in percent and pump delivery - Check of the replenishing times - Entry **2**
4	3 (MNL REPL)	- Manual replenishment - Entry **3**
5	4 PRE-OP	- **Pre-operation** check - Entry **4**
6	5 POST-OP	- **Post-operation** check - Entry **5**
7	6 FILM COUNT	- Daily and total film counter - Entry **6**
8	7 TIMER	- Setting of the present time and the TIMER - Entry **7**
9	8 TEMP	- Check of the set and the actual temperature of the chemistry and the dryer - Entry **8**
10	9 FILM LOC	Check of the present film location - Entry **9**
11	SET	- Call up the input mode (cursor appears) to modify values: Temperature, replenishment rate, start time etc.
12	△	- Increasing the value - Reverse display
13	▽	- Reducing the value - Advance display
14	YES	- Confirmation of the changed value - Confirmation of the display - Resetting the error message
15	NO	- Cancelling the display
16		Reserve, not used

Preparation of the Operation

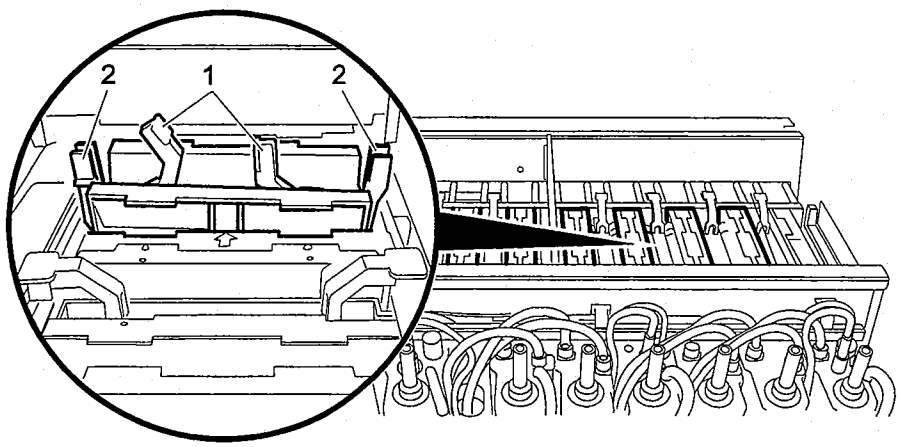
Daily Check prior to Switch-on

- ❑ Remove the top cover
- ❑ Remove the light shielding gate (arrow) and the rack holder (2): slacken the screws (1)



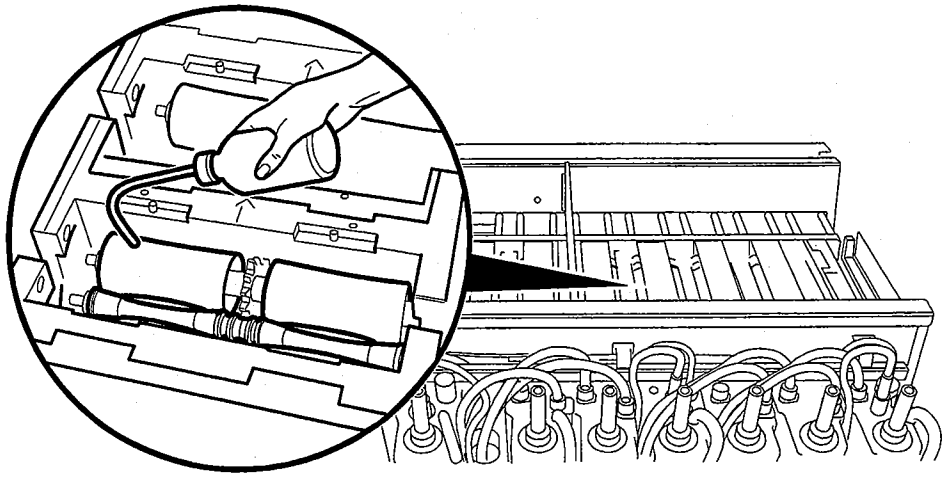
CFP23

- ❑ Dismount the crossover racks:
  For this, fold in the white holders (1) and press together the black clips (2)



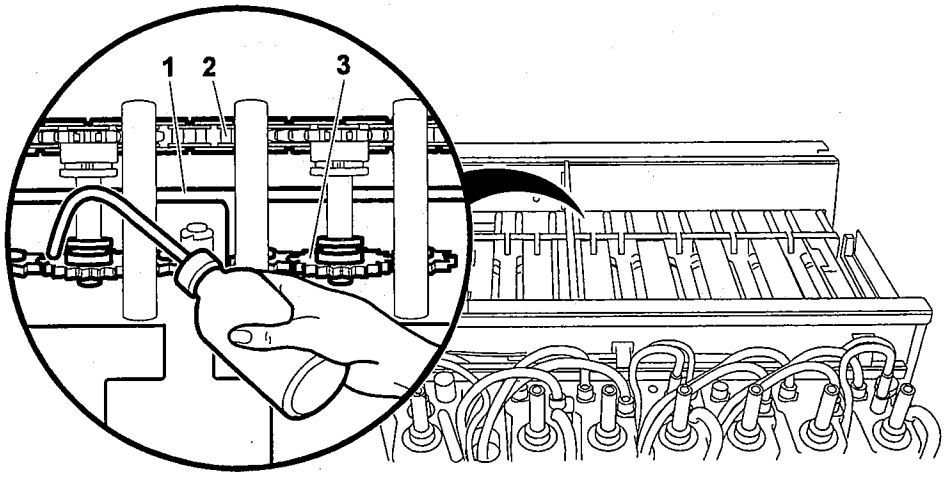
CFP22

- ❑ Splash the top rollers of the processing tanks with the water bottle



CFP21

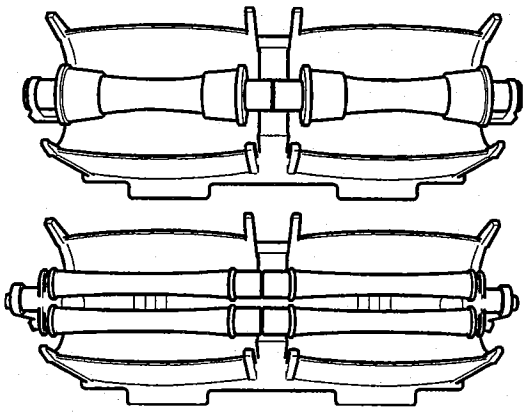
- ❑ Remove the 2 rack locks over the drive chain
- ❑ Check the tank edges (1) - in particular the BL and FIX tanks - and splash them if there is crystallisation
- ❑ Splash the gears (3) (rack side) with water.
  Take care not to splash too much water on the drive chain (2). Small splashes are harmless, they evaporate.



CFP47

Note Do not exceed the replenishment amount marked on the tanks when splashing. If less water is used for splashing, be sure to top up the temperature control tanks with water (amount indicated on the tanks) so that the concentration of the chemistry does not increase.

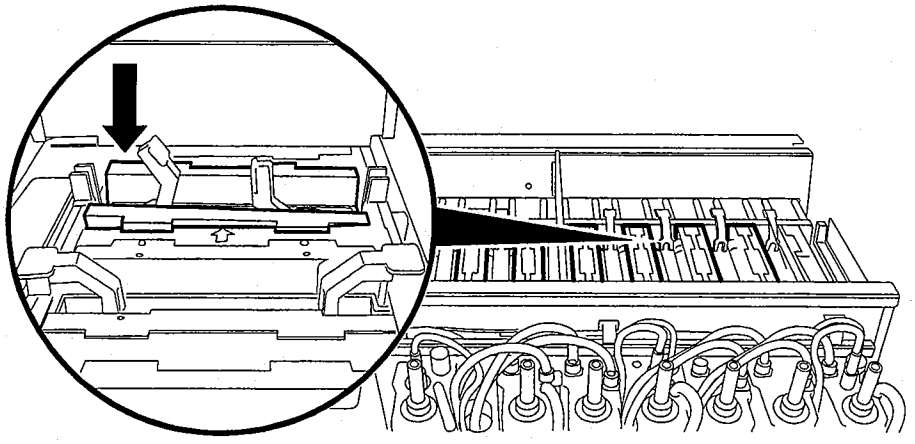
❑ Wash the crossover racks in the water basin



CFP45

❑ Put the crossover racks back on the processing racks

- Let them snap in by pressing together the black clips
- Put the white holders over the black clips towards the outside; if this is not possible, the rack is not properly locked (see *Figure*)



CFP46

❑ Mount the light shielding gate and put on the top cover

Switching on the Machine

Manual operation

❑ Switch on the machine: Main switch up

```
System idling
```

Only the exhaust fan and the battery buffer are active in Standby

❑ RUN (ON)

```
[ Pre-operation
  checking ]
```

TIMER mode (RUN flashing)
In this mode, the **main switch is not switched off** at the end of work:
The preheating is automatically switched on at the programmed start time.

```
      [ TIMER ]
Self-starting time
    MON  06:30
```

```
      [ TIMER ]

System warming up
  DEV : 25.7°C
```

When the TIMER starts, the actual temperature is displayed.

```
      [ TIMER ]

Warm-up completed
  DEV : 37.8°C
```

The warming-up phase is terminated.

❑ Call up the operating mode with RUN

```
[ Pre-operation
  checking ]
```

Daily Pre-operation Check

- After switch-on or after the warming-up phase (TIMER mode) the display shows:

```
[ Pre-operation
  checking ]
```

This message can be called up at any time by pressing 4 PRE-OP.

- Press ▽ each time and perform the indicated check.

Press the key	Perform the check
▽	[Pre-operation checking] Water poured on upper roller rack?
▽	[Pre-operation checking] Is crossover rack set ?
▽	[Pre-operation checking] Is light shield set ?
▽	[Pre-operation checking] Is processing tank level checked ?
▽	[Pre-operation checking] Is top cover closed ?
▽	[Pre-operation checking] Is replenisher tank level checked ?
▽	[Pre-operation checking] Is effluent tank level checked ?

- ❑ Remove splashes of chemistry with a cloth
- ❑ The bleach bath aeration is ensured by a visible shower system (not adjustable). Check its effectiveness.
- ❑ This ends the pre-operation check.

Cancel the display with NO.

```
Ready for
processing
  DEV : 37.8°C
```

Replacing the Tank Filter

- ❑ When the following message appears:

```
Replace
circulation filter

  xxx        [YES]
```

xxx = DEV or BL-STB

Replace the circulation filter in the indicated tank (see chapter *Maintenance*).

Making the Machine ready for Processing

- ❑ Set the DRIVE switch to ON - as required:

```
Turn on
DRIVE switch
DEV : 37.8°C
```

```
Ready for
processing
  DEV : 37.8°C
```

- ❑ Check the machine if the 2nd message does not appear: Perform the indicated instructions

Checking the Transport Conditions

Note Only required upon the first implementation.

- ❑ Before starting the film processing, feed a short leader with 2 cleaning strips or 2 test films (e.g. overaged films) in the film set box to make sure that they are not scratched or damaged in some other way while running through.

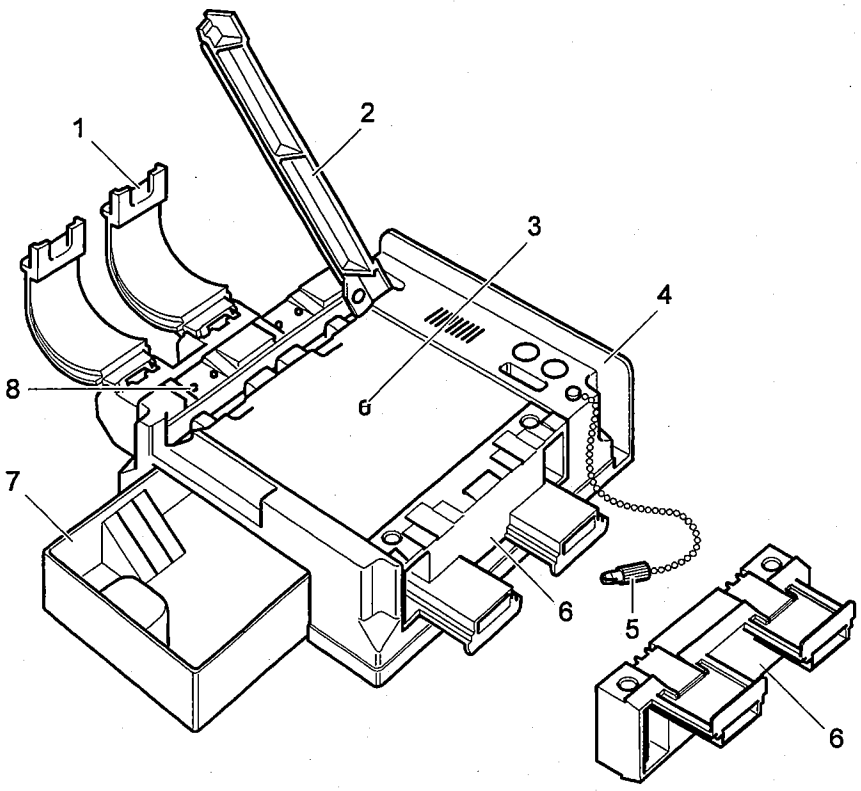
Order Handling

When an order is handed in, the film is put in the order envelope. The customer gets the slip that is torn off this order envelope and that carries the order number (legitimisation).

The order envelope and the film are marked with the same number (twin check label) to make sure that the customer will get back the right frames and prints.

Preparing Films

Film Splicing Station

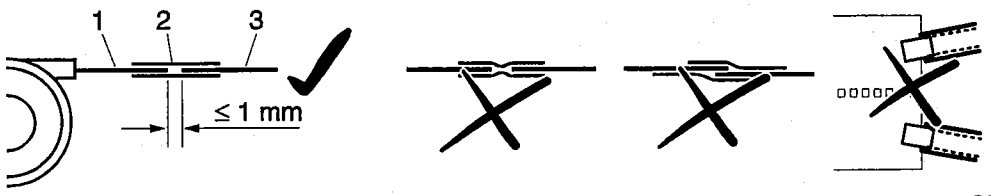


CF27

Film splicing station

1 Cartridge holder for films 135
2 Film cutter
3 Positioning pin for the short leader
4 Short leader holder
5 Film roller
6 Insert:
1. Holder for the magazine 120
2. Holder for the Intermediate Cartridge 240 (when the insert is turned)
7 Film scrap collecting box (film 135)
8 Film perforation pins

Sticker:



CFP94

1 Film
2 Tape
3 Short leader

Notes regarding film splicing

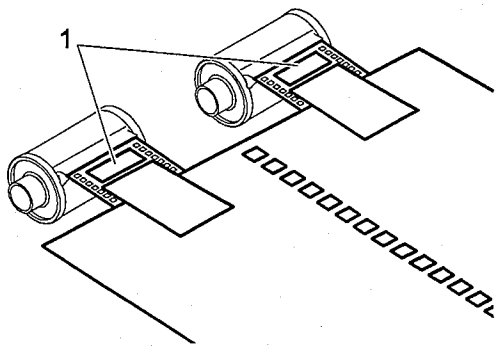
General

- Use the specified splicing tape
- Damaged short leaders (bent, folded, imperfect perforation) should not be used; they may cause film jams.
- When splicing films, make sure that
  - the films are spliced straight and parallel (risk of damage if the films stray)
  - the short leader and the film do not overlap
  - the short leader and the film have a gap in between of 1 mm at max.

  (See *Sticker* on the previous page)

Note The description of the film splicing procedure follows these General remarks; see *All film sizes except IX240* and *Film size IX240*.

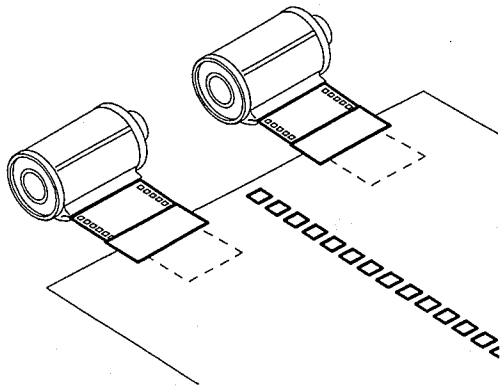
- To ensure good adhesion, firmly press down the tape with your finger on both sides of the short leader
- Stick the number used to trace the order - Twin check label (1) - on the order envelope and on the film (not on the emulsion side)



CFP43

All film sizes except IX240

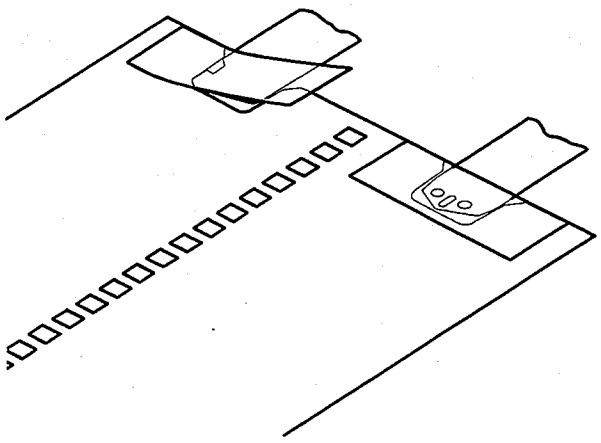
- Paste the tape on the film on both sides:
  - lengthwise
  - crosswise (turn the short leader and the cartridge)
    Mind the film width: The tape should not extend over the film



CFP48

Film size IX240

- ❑ Splice the film trailer to the specific short leader for films IX240 in the splicing station.
  These short leaders have a recess for the splicing of the film.



SKFP05

- The film should be at a right angle and should but-joint the short leader.
- Adjustment of the tape length same as for films 120
- Stick the tape crosswise on both sides, making sure that the tape does not extend over the short leader

Preparing and Splicing Films

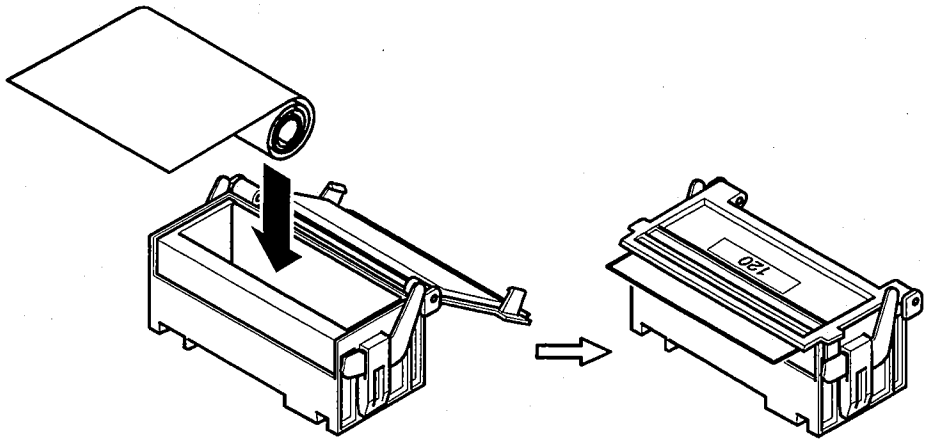
Preparing and splicing films 135

- ❑ If necessary, pull the film tip somewhat out of the cartridge (tongue extractor)
- ❑ Put the film cartridge in the cartridge holder 135 of the splicing station (emulsion side turned down)
- ❑ Make sure that the perforation pins reach into the film perforation
- ❑ Cut the film tip with the film cutter
- ❑ Place the short leader in the splicing station so that it but-joins (the 13th hole of the short leader is put on the positioning pin of the splicing station)
- ❑ Splice the film tip extending from the film cartridge to the short leader as described.
- ❑ Continue as described under *Feeding films into the Film Processor*

Preparing films 120 / 220

In the dark box/darkroom:

- ❑ Use the special magazine for the film sizes 120/220:
  Do not touch/damage the velvet on the magazine mouth when opening it
- ❑ Roll up the film with the emulsion side turned in (beginning with the first exposed frame) and put it in the film magazine 120
- ❑ Let the film stand out of the magazine approx. 10 mm and close the lid



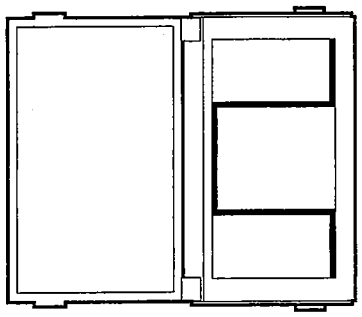
CFP29

- ❑ Continue as described under *Splicing films put in the film magazine 120*

Preparing films 126 / 110

▼ The film must be wound completely inside the film cartridge

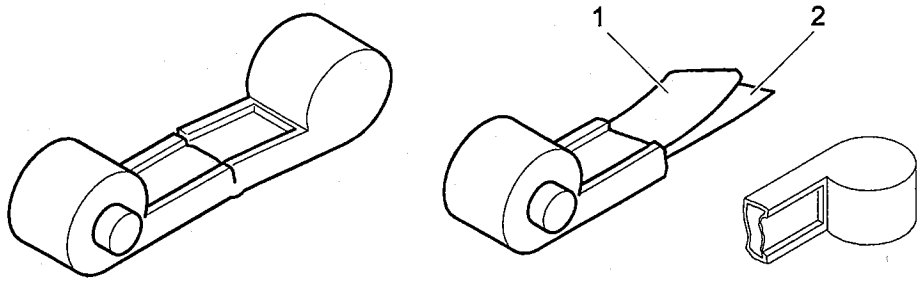
❑ Put the insert for the film sizes 126 /110 in the film magazine 120: Do not touch/damage the velvet on the magazine mouth when opening it



SKMSC03

In the dark box/darkroom:

❑ Open the film cartridge, remove the cap and take out the film (1) with the backing paper (2)



CFP36

❑ Wind up the film without the backing paper and put it into the prepared film magazine 120

❑ Let the film stand out of the magazine approx. 10 mm and close the lid

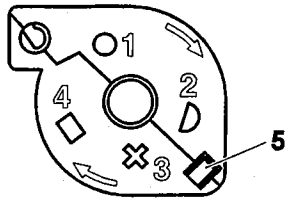
❑ Continue as described under *Splicing films put in the film magazine 120*

Preparing films IX240

The usual accessories can be used for films IX240:

- Start kit FP
- ADU with Intermediate Cartridge

Note The symbols visible on the side of the film cartridge IX240 show the status of the film.



ADU05

1 Unexposed
2 Partially exposed
3 Fully exposed
4 Processed
5 Indicator IPI (Irreversible Processed Indicator)
When this indicator is pressed in, the film cannot be reused for exposure and/or be processed again

1. Splicing film in the film magazine 120

In the dark box/darkroom:

- ❑ Put the insert for the film size IX240 in the film magazine 120: Do not touch/damage the velvet on the magazine mouth when opening it
- ❑ Open the light door of the film cartridge with the film picker
- ❑ Turn the film tip somewhat out of the cartridge with the film picker

Caution

Never turn the spooling device while the door is closed as otherwise the cartridge and/or the film will be damaged.

- ❑ Pull the film out of the cartridge as far as possible and cut the end of the film off the spool core so that it can be pulled out of the cartridge.
- ❑ Wind up the film with the emulsion side turned in and put it in the film magazine 120
- ❑ Let the film stand out of the magazine approx. 10 mm

Caution

Do not pull the end of the film too far out of the magazine 120 as otherwise the optical data cannot be read. This FID data begins at approx. 80 mm.

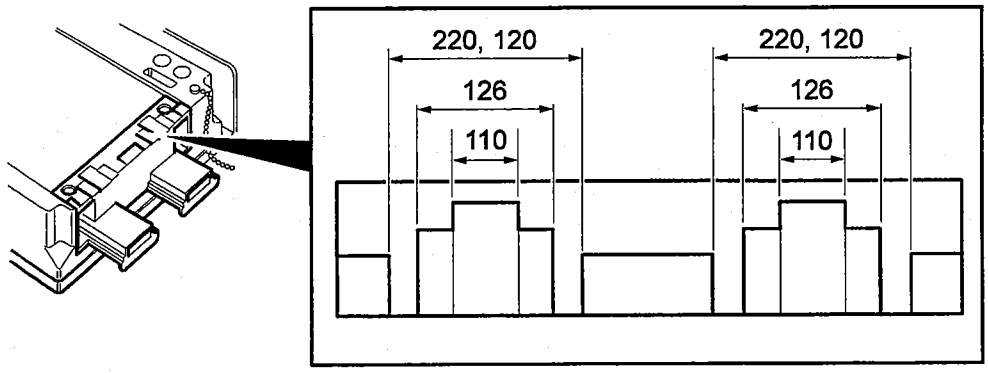
- ❑ Continue as described under *Splicing films put in the film magazine 120*

2. Splicing film in the Intermediate Cartridge

- ❑ Rewind the film IX240 into the Intermediate Cartridge with the ADU 1
- ❑ Put the Intermediate Cartridge in the adapter.
- ❑ Continue as described under *Splicing film size IX240 in the Intermediate Cartridge*

Splicing films put in the film magazine 120

- ❑ Put the film magazine 120 with the film in the magazine holder of the splicing station
- ❑ Put the film in the guide groove

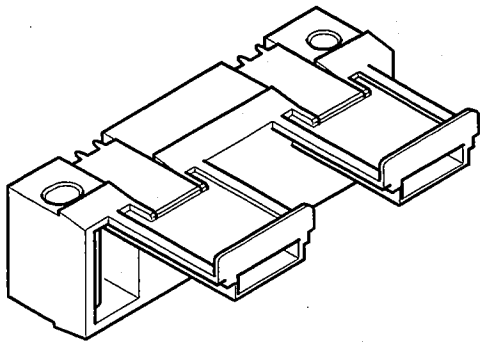


CFP26

- ❑ Place the short leader in the splicing station:
  The 13th hole of the short leader is put on the positioning pin of the splicing station
- ❑ Splice the film to the short leader as described
- ❑ Always hold the short leader **and** the film when taking them to the Film Processor

Splicing film size IX240 in the Intermediate Cartridge

- ❑ Turn the insert of the film splicing station and put the Intermediate Cartridge in the respective holder



CFP28

- ❑ Insert the film and splice it (see *Notes regarding film splicing, Film size IX240)*
- ❑ Always hold the short leader **and** the film when taking them to the Film Processor

Film Processing

▼ Pre-operation check already performed

▼ Machine ready for processing

```
Ready for
processing
  DEV : 37.8°C
```

Feeding Films into the Film Processor

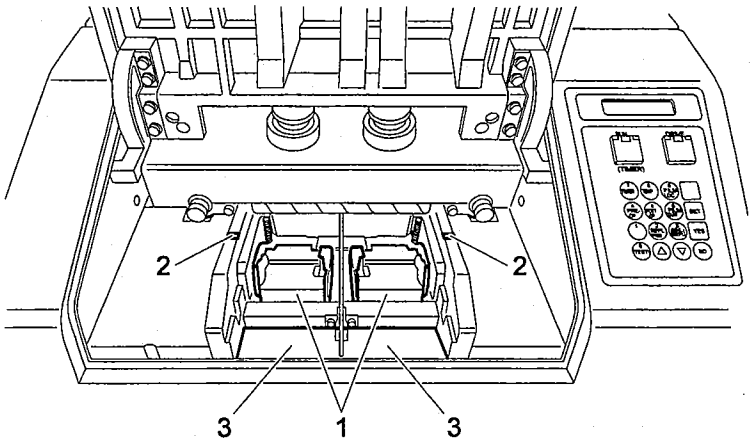
Caution

Dryer heater check:
For films 120, the temperature rises by 10 °C within approx. 8 minutes. After processing films 120, wait for 10 minutes so that shorter films are not overdried.

❑ Open the film set box cover

❑ Insert the short leader with the film (mind the sticker in the film set box):

– Film 135	Put the film cartridge in the cartridge holder 135 (1) and insert the short leader up to the marking for film 135 (2)
– Magazine 120	Push the short leader about half way in, put the magazine in the cavity (3) provided on the film set box and then push the short leader completely in
– Adapter with Intermediate Cartridge (IX240)	see above *Magazine 120*



CFP35

Display:

```
Close set box
cover
```

- ❑ Close the film set box cover:
  - The short leader and the film are drawn in automatically
  - At the same time, a locking mechanism is activated. The film set box cover cannot be opened any more.
  - The following messages appear on the display one after the other:

```
Short leader
in set box
```

```
Film size being
identified
```

```
L:135  R:135

Film in set box
```

L = left / R = right

```
Film in set box
```

Note If one of the keys (4 PRE-OP) or (5 POST-OP) is pressed during film processing, the following message is displayed:

```
Film being
processed
Wait for a while
```

- ❑ Wait until the film comes out. Do not pull the film out of the dryer: The film surface may get damaged.
- ❑ Clear the message by pressing (NO):

```
Ready for
processing
  DEV : 37.8°C
```

Film Cut

After the end of the film has been recognised, the film is cut and the automatic lock is released. Display:

```
Ready for
processing
  DEV : 37.8°C
```

The buzzer sounds.

- ❑ The next two films can be inserted.

Film Processing terminated

The processed films are exited by the dryer and are deposited in the short leader receiving box. A buzzer sounds at the same time.

Final Jobs after Film Processing

- ❑ Detach the films from the short leaders and remove all tapes
- ❑ Remove tape residues from the short leaders with alcohol
- ❑ Clean the short leaders in water before reusing them
- ❑ After film processing and printing of the frames, the film is cut into film strips and pushed into transparent foils by means of a film sleever (optional, e.g. AGFA FS 1). The film strips and the prints are put together in a photo bag that is put in the order envelope.
- ❑ Films IX240 have to be rewound into the cartridge with the reattach unit.
  - Wind the film into the right cartridge
    The film and the cartridge number must agree.
  - The IPI must have been pressed in

End of Operation

Daily Post-operation Check

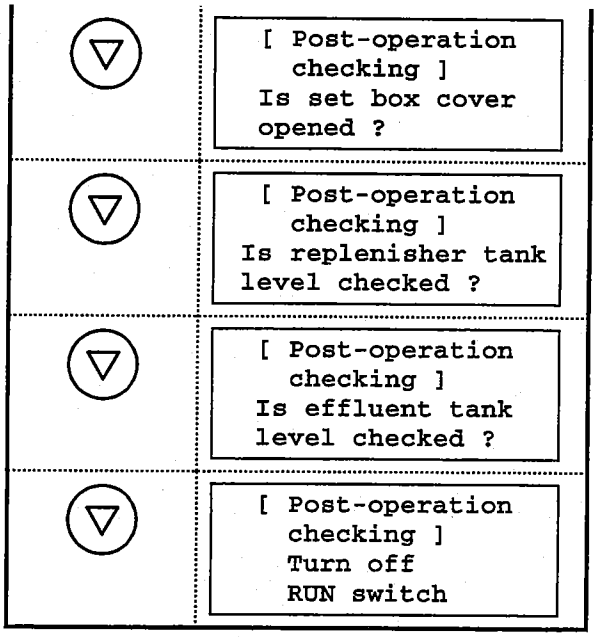
- ❑ Check that all films have come out
- ❑ Call up the post-operation check by pressing (5 POST-OP)

```
[ Post-operation
  checking ]
```

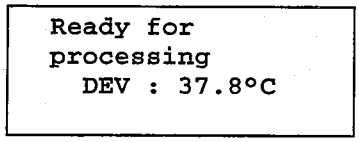
- ❑ Press ▽ each time and perform the indicated check.

Press the key	Perform the check
▽	[Post-operation checking] Self-starting time MON 06.30
▽	[Post-operation checking] Self-starting time ??? ??.??
▽	[Post-operation checking] Is crossover rack washed ?
▽	[Post-operation checking] Water poured on upper rack roller?
▽	[Post-operation checking] Is processing tank level checked?
▽	[Post-operation checking] Turn off DRIVE switch
▽	[Post-operation checking] Is top cover opened ?

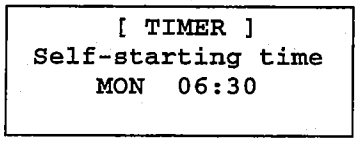
If the TIMER mode (7 day timer) is desired, check the self-starting time and change it, if necessary.



- This is the end of the display-controlled post-operation check. Depending on the mode, the following message is displayed:



Manual mode



TIMER mode

- In manual mode: Switch off the machine: Main switch down.

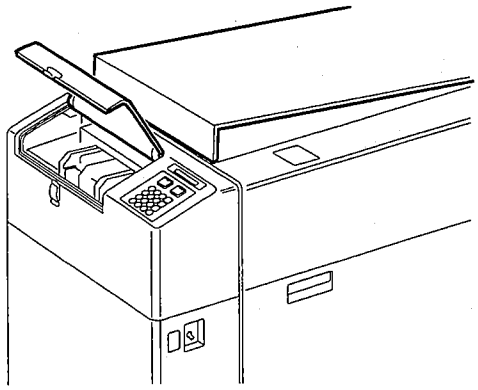
Note In TIMER mode, the main switch remains switched on. The backlight of the display switches off after 30 minutes.

Daily Check after Switch-off

- ❑ Take off the top cover
- ❑ Wash the crossover racks:
  - Remove the light shielding plate
  - Remove the crossover racks from the processing racks and wash them in the wash basin
- ❑ Splash the top rollers of the processing tanks with the water bottle.
- ❑ Check the tank edges - in particular the BL and FIX tanks - and splash them if there is crystallisation
- ❑ Splash the gears (rack side) with water.
  Take care not to splash too much water on the drive chain (3). Small splashes are harmless, they evaporate.

Note If these cleaning jobs are not performed with care, the solutions may crystallise on the rollers overnight. This may lead to transport problems and scratches on the films.

- ❑ Mount the crossover racks and the light shielding plate again
- ❑ Put on the top cover
- ❑ Do not let the humidity of the tanks get on the rollers in the film set box:
  - Open the set box cover and
  - Open the top cover



CFP28

Timer Mode

Activating the Timer Mode

Workstep	Perform	Display

Upon switch-off
Switch off the DRIVE switch
		`[ TIMER ]`
		`Turn off`
		`DRIVE switch`

Call up the TIMER mode:
The RUN switch is flashing
Start time for example
Monday, 6:30
	Switch off the RUN switch	`[ TIMER ]`
		`Self-starting time`
		`MON 06:30`
		The start time is displayed for 30 minutes after the TIMER has been switched on; then the backlight of the display switches off

Upon switch-on		`[ TIMER ]`
		`System warming up`
		`DEV : 25.7°C`
		When the TIMER starts, the present temperature is displayed.
		`[ TIMER ]`
		`Warm-up completed`
		`DEV : 37.8°C`

Call up the operation mode	Switch on the RUN switch	`[ Pre-operation checking ]`

Setting the present Time

Note The weekday changes automatically by the entry of the year, the month and the day.

Workstep	Perform	Display
Call up the TIMER setting mode	7 TIMER	[Timer set mode] (1) Present time (2) Set operat. days (3) Starting time
Call the set time: (1)	1	[Present time] 95/06/12 ### 15:45:33
Call up the setting mode: The cursor appears	SET	[Present time] 95/06/12 ### 15:45:33
Move the cursor to the place to be changed, e.g. to minutes	▽	[Present time] 95/06/12 ### 15:45:33
Enter the correct time (seconds cannot be entered)	e.g. 7 TIMER	[Present time] 95/06/12 ### 15:47:33
Confirm the entry: - The cursor disappears - The Timer is running	YES	[Present time] 95/06/12 ### 15:47:33
Return to the operation mode.	NO	Ready for processing DEV : 37.8°C

Setting operating Days

Note In the TIMER mode, the preheating of the machine is switched on automatically at the preset time on the specified workdays.

Workstep	Perform	Display
Call up the TIMER setting mode	7 TIMER	[Timer set mode] (1) Present time (2) Set operat. days (3) Starting time
Call up Set operating days: (2)	2 REPL PRM	[Set operating days] SU MO TU WE TH FR SA ON ON ON ON ON ON ON
Activate the setting mode: The cursor appears	SET	[Set operating days] SU MO TU WE TH FR SA ON ON ON ON ON ON ON
Move the cursor to the place to be modified	▽	[Set operating days] SU MO TU WE TH FR SA ON ON ON ON ON ON ON
Specify the workdays:	0 (TEST) or 1	[Set operating days] SU MO TU WE TH FR SA -- ON ON ON ON ON ON <0> -- No operation <1> ON Timer activated
Confirm the entry: The cursor disappears	YES	[Set operating days] SO MO DI MI DO FR SA -- ON ON ON ON ON ON
Return to the operation mode	NO	Ready for processing DEV : 37.8°C

Setting special Days

Note On these days, the machine is switched on automatically at a time other than the normal time, e.g.:
Normal switch-on time 6:30
Saturday 6:45

Workstep	Perform	Display
Call up the TIMER setting mode	7 TIMER	[Timer set mode] (1) Present time (2) Set operat. days (3) Starting time
Call up the automatic switch-on time: (3)	3 (MNL REPL)	[Starting time] SUN 06:30
Select the special day, e.g. Saturday	▽ e.g. 6 x	[Starting time] SUN 06:30
Select the setting mode: The cursor appears	SET	[Starting time] SUN 06:30
Move the cursor to the place to be modified	▽	[Starting time] SUN 06:30
Change the time	e.g. 4 PRE-OP 5 POST-OP	[Starting time] SUN 06:45
Confirm the entry: The cursor disappears	YES	[Starting time] SUN 06:45
Return to the operation mode	NO	Ready for processing DEV : 37.8°C

Solution Temperatures in the Machine Tanks

Check

Note The solution temperatures of the tanks DEV to STB (without the BL tank) are displayed.

Workstep	Perform	Display
Call up the temperature mode	8 TEMP	[Processing temp.] DEV Actual:38.0°C Set: :38.0°C
Check the individual solutions	▽ or △	[Processing temp.] DEV Actual:38.0°C Set: :38.0°C
Return to the operation mode	NO	Ready for processing DEV : 37.8°C

Modify

Note Set the solution temperatures only within the admissible temperature range.

Factory setting:

DEV	37,8°C
FIX-2	37,0°C
STB-3	37,0°C
Dryer	50,0°C

Workstep	Perform	Display
Call up the temperature mode	8 TEMP	[Processing temp.] DEV Actual:38.0°C Set: :38.0°C
Call up the DEV temperatures	▽	[Processing temp.] DEV Actual:38.0°C Set: :38.0°C
Call up the input mode: The cursor appears	SET	[Processing temp.] DEV Actual:38.0°C Set: :38.0°C
Modify the values	e.g. 3 (MNL REPL) 7 TIMER 8 TEMP	[Processing temp.] DEV Actual:38.0°C Set: :37.8°C
Confirm the entry: The cursor disappears	YES	[Processing temp.] DEV Actual:38.0°C Set: :37.8°C
Select other solutions or the dryer and modify the temperatures as described above	▽ or △	
Return to the operation mode	NO	Ready for processing DEV : 37.8°C

Emptying the Effluent Tanks

The effluent tanks have a capacity of 6,7 ℓ. When an effluent tank is full,

- The buzzer sounds
- The following message is displayed

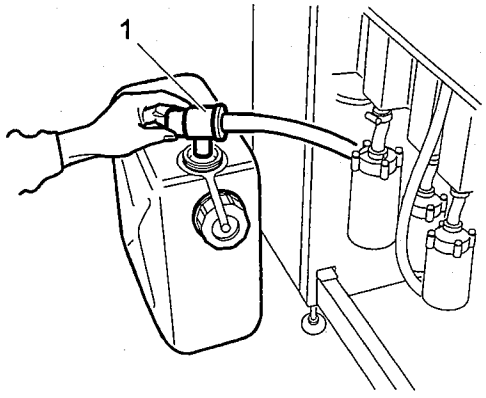
```
Effluent tank    (#)
 full
```

Note Do not spill the waste solution when the hose is taken out of the plastic tank. Wipe off splashes with a cloth.

Workstep	Perform	Display
Switch off the buzzer	YES	Effluent tank full (#)
Empty the effluent tank: see *Description* below		Effluent tank full (#)
Put back the tank: The machine goes automatically into the Ready for processing mode		Ready for processing DEV : 37.8°C

Empty the effluent tank:

- ❑ Remove the lateral cover and pull out the tank approx. 10 cm
- ❑ Open the drain cock (1) and drain the solution into a plastic container



CFP30

Checking the present Film Processing Location

Workstep	Perform	Display
Call up the film location indication mode	9 FILM LOC	[Film location] DEV BL FIX STB DRY → → → 02 Film(s) in FP200 → Film position 02 Number of films just being processed
Return to the operation mode	NO	Ready for processing DEV : 37.8°C

Adjusting the Replenishment Rates to the Production

The machine calculates the replenishment rates on the basis of the basic replenishment amount and the pump deliveries (see the chapter *Installation, Checking the replenishment amount of the pumps* and *Checking the basic replenishment amount*).

This basic setting need not to be changed when the replenishment rates are adjusted to the production. The adjustment is performed by setting the replenishment rates in percent.

Note

For high production	Replenish less;
For reduced production	Replenish more
Setting range	+150% to -50%

Workstep	Perform	Display
Call up the replenishment setting mode	2 REPL PRM	[Replenishment setting mode] (1) Repl. rate in % (2) Repl. times
Call up the replenishing rate: (1)	1	DEV Repl. rate 0% (41.8ml 26.1s) 50 50 / 60 Frequency
Select the solution:	▽	DEV Repl. rate 0% (41.8ml 26.1s) 50
Call up the setting mode: The cursor appears	SET	DEV Repl. rate 0% (41.8ml 26.1s) 50
Change the percentage: This also changes the pump replenishment rates and the replenishing times	▽ or △	DEV Repl. rate 30% (41.8ml 26.1s) 50
Confirm the display: The cursor disappears	YES	DEV Repl. rate 30% (41.8ml 26.1s) 50
Return to the operation mode	NO	Ready for processing DEV : 37.8°C

Checking the Replenishing Times

Note Every solution is replenished after 2 m of film (size 135) have been processed. Every replenishment is recorded by the replenishing times counter.

Workstep	Perform	Display
Call up the replenishment setting mode	2 REPL PRM	[Replenishment setting mode] (1) Repl. rate in % (2) Repl. times
Call up the replenishing times : (2)	2 REPL PRM	[Repl. times] DEV yyyyy BL yyyyy xxx Solution yyyyy Replenishing times
Check the replenishing times of FIX and STB	▽	[Repl. times] FIX yyyyy STB yyyyy
Call up: Clear Repl. times	▽	Clear Repl. times [YES]
Do not reset the counter: Return to the operation mode	NO	Ready for processing DEV : 37.8°C
or Reset the counter to zero	YES	or Input code number 0000
Enter the code number	0 (TEST) .... 9 FILM LOC	
Return to the operation mode	NO	Ready for processing DEV : 37.8°C

Manual Replenishment

Note In the manual replenishment mode, the specified amount of chemistry is supplied into the tank (= basic replenishment amount + replenishment rate in percent).

Workstep	Perform	Display
Call up the manual replenishment setting mode	3 MNL REPL	[Manual Replenish.] ### Replen. time 26.1sec 50 50 / 60 Frequency
Select the replenisher pump	▽ or △	[Manual Replenish.] ### Replen. time 26.1sec 50
Activate the pump: - The time is counted down on the display - A buzzer sounds when the manual replenishment is finished	YES	[Manual Replenish.] ### Replen. time 26.1sec 50
Return to the operation mode	NO	Ready for processing DEV : 37.8°C

Film Counters of processed Films

Daily Film Counter

Note This counter shows the number of processed films of the current day, split up by film sizes and numbers of frames:

Workstep	Perform	Display
Call up the film counter	6 FILM COUNT	[Film number] (1) Daily number (2) Total number (3) Clear counter
Select daily: (1)	1	[Daily processed film number]
Select Film size / number of frames	▽	[Daily number] 135: 12•15EXP xxx 135: 18EXP xxx 135: 24EXP xxx xxxx = Number of processed films
		[Daily number] 135: 27EXP xxx 135: 36•39EXP xxx
		[Daily number] 126: 12EXP xxx 126: 24EXP xxx
		[Daily number] 110: 12EXP xxx 110: 24EXP xxx
		[Daily number] 120: 6EXP xxx 120: 12EXP xxx 220: xxx
	▽	[Daily number] 240: 15EXP xxx 240: 25EXP xxx 240: 40EXP xxx
Return to the operation mode **or** continue with the total film counter	NO ▽	Ready for processing DEV : 37.8°C

Total Film Counter

Note This counter shows the total number of all films processed up to now, split up by film sizes and numbers of frames:

Workstep	Perform	Display
Call up the film counter	6 FILM COUNT	[Film number] (1) Daily number (2) Total number (3) Clear counter
Select (2)	2 REPL PRM	[Total processed film number]
Select Film size / number of frames 6 Displays: Same order as in the previous table	▽ ⋮ ▽	[Total number] 135: 12•15EXP xxx 135: 18EXP xxx 135: 24EXP xxx xxxx = Number of processed films [Total number] 240: 15EXP xxx 240: 25EXP xxx 240: 40EXP xxx
Return to the operation mode **or**	NO	Ready for processing DEV : 37.8°C
Continue with Clearing the film counter	▽	

Clearing the Film Counters (Daily and/or total)

Daily

Workstep	Perform	Display
Call up the counter clear mode	6 FILM COUNT, △	[Clear film counter] (1) Daily (2) Total
Select (1)	1	Clear daily film counter ? [YES]
Reset the daily counter to zero	YES	
Return to the operation mode **or**	NO	Ready for processing DEV : 37.8°C
Continue with Clearing the total film counter	NO	Ready for processing DEV : 37.8°C

Total

Workstep	Perform	Display
Call up the counter clear mode	6 FILM COUNT, △	[Clear film counter] (1) Daily (2) Total
Select (2)	2 REPL PRM	Clear total counter Input code number xxxx
Reset the total counter to zero: Input code number	0 (TEST) ... 9 FILM LOC	
Return to the operation mode	NO	Ready for processing DEV : 37.8°C

■

Maintenance

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Consumables and Exchange Parts

Qty	Consumables	Part No.	ABC Code
1	Film splicing tape 19 mm	CM+9.8500.9972.0	9FBXX
1	Film splicing tape 25 mm	CM+9.8500.9975.0	
20	Short leaders for FP 1/2/3-72, FP 100, FP 200	CL+F3-45550	
20	Short leaders IX240 for FP 1/2/3-72, FP 100, FP 200	CM+7.8506.5707.0	9XP3X
1	Chemical filter	CL+F4-35063	WNZBC
	Cleaning Leader for drive rollers		
10	Film pickers 135	CL+P4-2204	YLXZY
10	Film pickers IX240	CM+7.8506.5701.0	9XMW7
1	Dusting brush	CM+7.0086.8060.0	UBLOQ
1 can 400 ml	Air spray	CM+9.9999.9274.0	8CANZ

Qty	Parts to be replaced on a regular basis		Part No.	ABC Code
1	Squeegee roller		CL+F4-65230	
1	Air filter (dryer)	FP 100 FP 200	CL+F4-A0015 CL+F4-A4028	
1	Drive roller (film set box)		CL+F3-A3702	
2	Push rollers (film set box)		CL+F4-A6784	

Maintenance Schedule

Jobs to be performed	Daily	Weekly	Monthly	Every year	Every 2 years
Operator					
Pre-operation / post-operation jobs (see chapter *Operation*)	●				
Clean the machine inside		●			
Clean the chemical filters		●			
Clean the STB3 rack		●			
Check the chemistry. Process a test strip		●			
Check the replenishment rate		●			
Clean the dryer air filter		●			
Check the film detection sensor			●		
Check the cartridge holder for film 135			●		
Clean the film cutter blade			●		
Clean the push and drive rollers			●		
Check the processing temperature			●		
Replace the chemical filters			●		
Clean the processing racks / check the function			●		
Clean the processing tanks (* every 6 months)				● *	
Replace the dryer air filter				●	
Service Technician					
Check the spring force of the cartridge holder for film 135 / lubricate				●	
Check / adjust the pull-in force of the transport rollers				●	
Replace the rubber dampers of the push solenoids; Clean / adjust the film detection sensor				●	
Check the STB squeegee roller				●	
Drive chains in the dryer: Check the tension / lubricate the chains				●	
Check the tanks, pumps, hoses for leaks				●	
Clean / check the electrical components				●	
Clean the dryer area				●	
Replace the transport rollers (push / drive)					●
Replace the centre gears (short leader transport) and the sprockets					●
Replace the top rack rollers					●
Clean, lubricate the drive chain, replace it if necessary					●

Maintenance Jobs - Operator

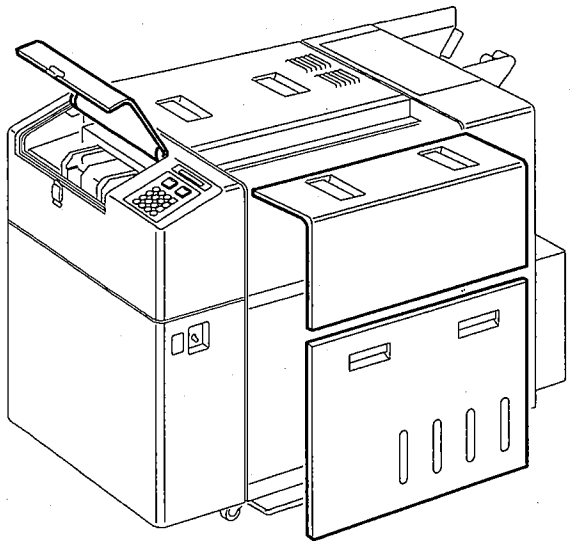
Daily

The *Pre-operation and post-operation inspections* (see chapter *Operation*) comprise all maintenance and cleaning jobs to be performed every day.

Weekly

Cleaning the machine inside

❑ Remove 2 side covers



CFP56

❑ Carefully clean the following parts with a wet cloth:

- Circulation pumps
- Tank area top / bottom
- Vinyl hose joints

Cleaning the chemical filters

Clogged chemical filters cause poor air circulation and excessive temperatures.
Consequences:

- Unstable production (differences in quality of the prints)
- Film damages as foreign bodies may stick to the film
- Shorter service life of the pumps

❑ Remove all dust and foreign bodies from the filter

Filter	Cleaning
DEV	Weekly
BL	Every 2 weeks
FIX-1	
FIX-2	
STB-1	
STB-2	
STB-3	

Cleaning the STB3 rack

The last processing rack requires more attention as contamination is particularly dangerous in this area: The film gets dirty / damaged.

▼ Turn off the power switch

❑ Remove the crossover rack

❑ Lift out the STB3 rack:

- Turn the rollers by hand to check their smooth movement
- Check the rack for crystal deposits and damages caused by the gear
- Rinse the STB3 rack with warm water (if possible, use a pressure cleaning unit)

❑ Wash the squeegee foam plastic rollers with water and check them for damages

❑ If the surface of a foam plastic roller is hardened or cracked, the roller cannot squeeze off the liquid sufficiently any more. Replace the roller

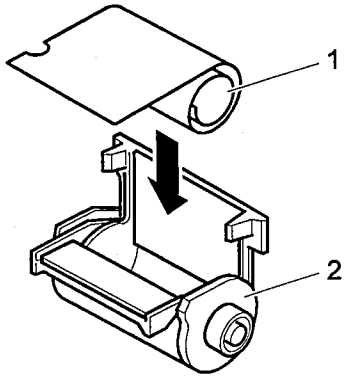
- Call a service technician
- See *Replacing the STB squeegee roller*

Checking the chemistry: Processing a test strip

The condition of the solutions is checked by means of a test strip (test film).

Recommended: Process a test strip at least once a week before starting the production.

- ❑ Putting the test strip (1) in the film magazine 126 (2) in the darkroom / dark box:
  - Put the magazine and the packed test strip in the dark box
  - Take the test strip out of the packing (if it is a roll film, tear a strip off the roll) and roll it up inside the magazine with the emulsion side turned in
  - Close the magazine lid and let the test strip stand out approx. 20 mm
  - Put the remaining test strip back into the packing and close the latter light-tight, remove the magazine from the dark box

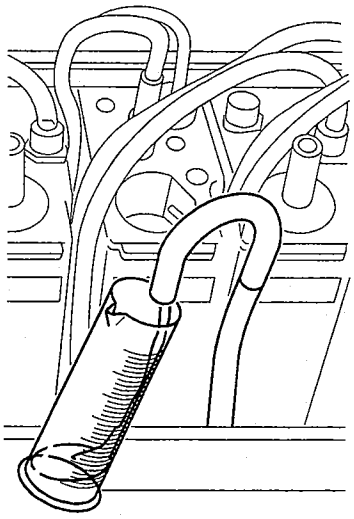


CFP95

- ❑ Splice the test strip to the short leader and process it in the same way as a film of the sizes 126 / 110
- ❑ Assess the test strip as instructed by the manufacturer
- ❑ Keep a record of the results: This is the best way to discover deviations in time

Note Be sure to handle the test strips as prescribed by the manufacturer. Especially the temperature and the relative humidity have to be observed.
If the test strips are stored in a fridge below 10 °C, they should be warmed up to room temperature for about 2 hours before they are used, otherwise the condensated humidity on the strips cannot evaporate completely.

Checking the replenishment rate

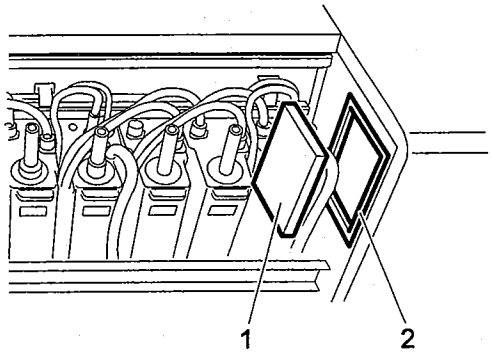
Workstep	Perform	Display
Call up the replenishment rate setting mode	2 REPL PRM	Repl. rate in % Setting mode 50 50 / 60 Frequency
Check the replenishment rate of the different solutions one after the other	▽	DEV Repl. rate + 0% (41.8ml 26.1s) 50
Call up the manual replenishment	3 MNL REPL	Manual replenishment
Select the replenisher pump, e.g. DEV	▽ or △	DEV Replenish. time 26.1sec 50 50 / 60 Frequency
Take the replenishing hose out of the temperature control tank and put it in the measuring cylinder		
Activate the pump: - The time is counted down on the display - A buzzer sounds when the manual replenishment is finished	YES	DEV Replenish. time 26.1sec 50 DEV Replenishment 26.1sec 50
Measure all solutions		
Return to the operation mode	NO	Ready for processing DEV:37.8°C

Note If the measured replenishment rate differs from the displayed value by more than 10%, the pump and/or the hosing is defective:

- ❑ Call a service technician (see section *Checking the tanks, pumps, hoses for leaks*)

Cleaning the dryer air filter

- ❑ Take the air filter (1) out of the frame (2)



CFP59

- ❑ Wash the air filter in warm water (without rubbing), let it dry completely and reinstall it.
- ❑ Replace the air filter:
  - After it has been washed four or five times
  - If it is very dirty
  - If it is damaged (dried out, torn, cracked)

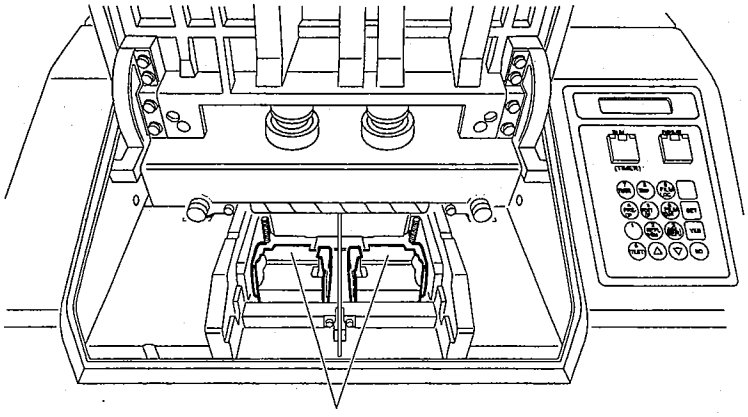
Monthly

Checking the film detection sensor

- ❑ Call up the status checks and check the film detection sensor function (see in the chapter *Elimination of errors* the section *Calling up the status checks* and *Film detection sensor malfunction*)

Checking the cartridge holder for film 135

- ▼ Turn off the power switch
- ❑ Open the film set box cover
- ❑ Check the smooth movement of the two cartridge holders (1): Push them to the front by hand. The resistance noticed on both holders should be equal.



1

CFP50

- ❑ Call a service technician if the cartridge holders cannot be moved smoothly (see *Checking the spring force of the cartridge holder for film 135 / lubricating*)

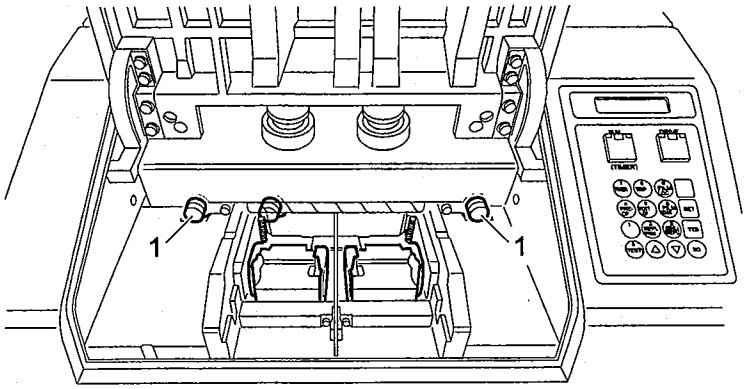
Cleaning the film cutter blade

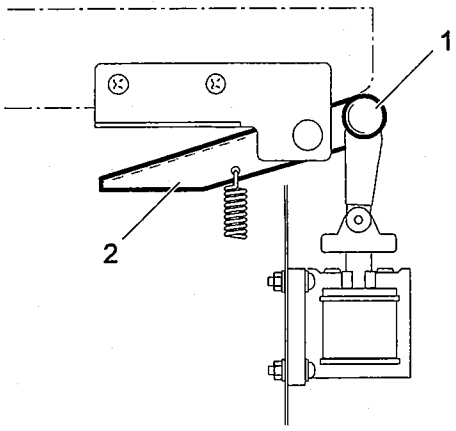
▼ Turn off the power switch

❑ Open the film set box

❑ Clean the film cutter blades one by one:

- Press down the manual film cut buttons (1) to move up the blade (2)
- Clean the blade (2) with a dusting brush or an air spray



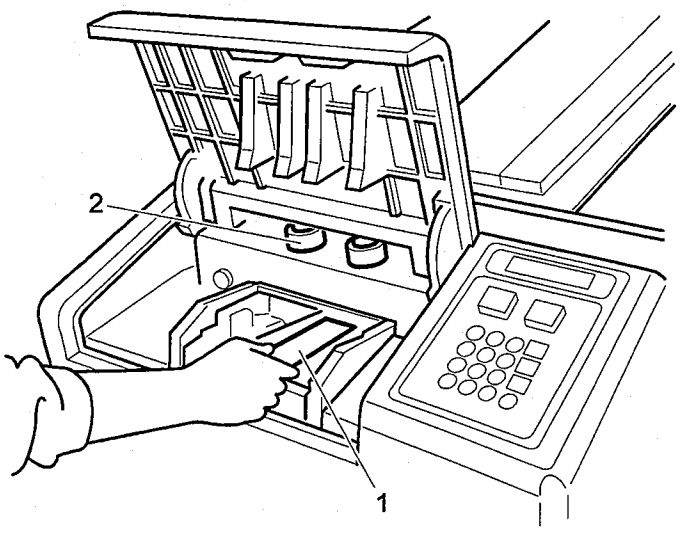


Cleaning the push and drive rollers

The push rollers (top) and the drive roller (bottom) should be cleaned regularly as dirty rollers cannot advance the film troublefree. The cleaning frequency depends on the environment and the number of films that are processed per day. Monthly cleaning is recommended.

- ❑ Wet the cleaning leader on both sides; wipe off excessive water with a cloth
- ❑ Open the film set box
- ❑ Insert the cleaning leader (1) in the middle of the right or left-hand film lane and push it about half way in
- ❑ The rollers are pressed together. To clean them, press the push solenoid (2) several times for 5 to 10 seconds, moving the leader forward and backward at the same time. Repeat this procedure a few times; then pull out the cleaning leader.

Notes
1. Do not press the push solenoid longer than 10 seconds as the cleaning leader should not be drawn in. If this is the case, release the push solenoid at once.
2. Never push the cartridge holder for film 135 to the front during the cleaning operation as this might activate the film cutter.



CFP60

- ❑ Clean the rollers on the other film lane in the same way: Insert the cleaning leader with the unused clean side
- ❑ Let the rollers dry completely before processing films: Turn on the DRIVE switch and wait for 5 to 10 minutes
- ❑ Wash the cleaning leader with soap
- ❑ Replace very dirty or damaged cleaning leaders

Checking the processing temperature

- ❑ Measure the temperature in the processing tanks with a standard thermometer and check whether the measured temperature corresponds to the set and the actual temperature.

Replacing the chemical filters

Clogged chemical filters cause poor air circulation and excessive temperatures. Consequences:

- Unstable production (differences in quality of the prints)
- Film damages as foreign bodies may stick to the film
- Shorter service life of the pumps

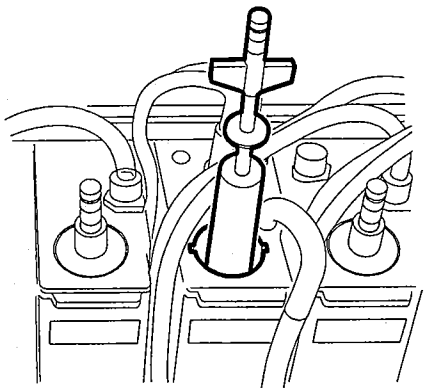
Filter	Replacement
DEV	Monthly
BL	Every 2 months
FIX-1	
FIX-2	
STB-1	
STB-2	
STB-3	

Note When the filters are due to be replaced, the appropriate message is displayed automatically during the pre-operation / post-operation inspection:

```
Replace circulation
filter DEV     [YES]
```

```
Replace circulation
filters BL-STB [YES]
```

- ❑ Very dirty filters should be replaced before this message comes up
- ❑ Align the ears of the filter rod with the recesses on the temperature control tank to remove the filter



CFP58

Cleaning the processing racks / checking the function

▼ Turn off the power switch

❑ Remove the crossover racks

❑ Lift out all processing racks

- Make sure that no chemistry is spilt
- Wipe off any splashes with a cloth

❑ Check the rack function

- Check the smooth turning of the gears:
  If a gear does not turn smoothly, there are crystal deposits
- Check the bearings for wear

❑ Rinse the processing racks with warm water (if necessary, use a pressure cleaning unit)

Every 6 months

Cleaning the processing tanks

Clean the processing tanks regularly as heavy contamination / crystallised deposits may dirty and scratch the film.

▼ Turn off the power switch

❑ Take out all processing racks

❑ Remove crystals and other foreign bodies from the rollers and gears as well as from the solution level area in the tanks, using a brush and warm water (30-40 °C)

❑ Use a neutral detergent in case of heavy contamination

Replacing the dryer air filter

See *Cleaning the dryer air filter*

Maintenance Jobs - Service Technician

Once every Year

Checking the spring force of the cartridge holder for film 135 / lubricating

- ❑ Measure the spring force with a meter and lubricate the spring, if necessary.
  Reference value: 1.400 ± 300 g

Checking / adjusting the pull-in force of the transport rollers

- ❑ Measure the pull-in force of the push and drive rollers with a meter / adjust it if necessary.
  Reference value: ≥ 4 kg

Replacing the rubber dampers of the push solenoids

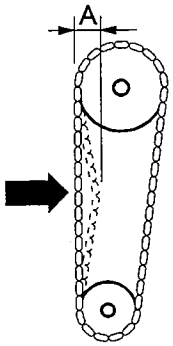
- ❑ Replace the rubber dampers (cap on the solenoid axle)
- ❑ There may be a little plastic plate in the rubber damper:
  Make sure that this little plate does not fall out and get lost.
- ❑ Clean / adjust the film detection sensor

Replacing the STB squeegee roller

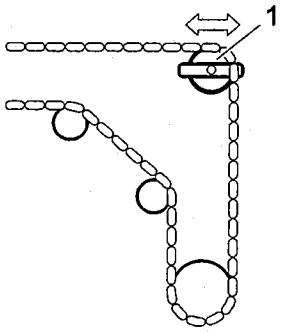
- ▼ Turn off the power switch
- ❑ Remove the crossover rack
- ❑ Lift out the STB3 rack
- ❑ Replace the squeegee foam plastic rollers

Drive chains in the dryer: Checking the tension / lubricating the chains

- ❑ Open the front and side covers of the dryer
- ❑ Push the drive motor chain to the side (*arrow*) and measure the backlash:
  A = 5-10 mm
- ❑ If necessary, shift the drive motor mounting plate to adjust the right tension



- ❑ Check the position of the Processor chain adjusting gear (1) and adjust the tension in position (1): The LH chain should run parallel to the RH chain.



CPF86

Checking all tanks, pumps and hoses for leaks

- ❑ Check the tank bottoms, pumps and hose joints for leaking spots

Cleaning and checking electrical components

- ❑ Clean with a dusting brush and an air spray
- ❑ Check the function (see chapter *Troubleshooting*)

Cleaning the dryer area

- ❑ Clean the entire dryer area

Every two years

Replacing the transport rollers

- ❑ Replace the push and drive rollers in the film set box

Replacing the centre gears and sprockets

- ❑ Replace all centre gears (short leader transport) and all sprockets in the film processing area

Replacing the top rack rollers

- ❑ Check the rack rollers above the liquid level and replace them, if necessary

Cleaning, lubricating and if necessary replacing the Processor drive chain

- ❑ Clean the drive chain
- ❑ If necessary, lubricate or replace it

Error Correction

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Remedy in case of Deviations from normal Operation

Manual Film Transport and manual Film Cut

Operation interrupted - e.g. due to a power failure - and display of one of the following conditions:

1. Set box empty
2. Size 110, 126, 120, IX240 loaded
3. Size 135 loaded, film already cut (no longer attached to the cartridge)
4. Size 135 in set box, film still attached to the film cartridge

Case 1 to 3

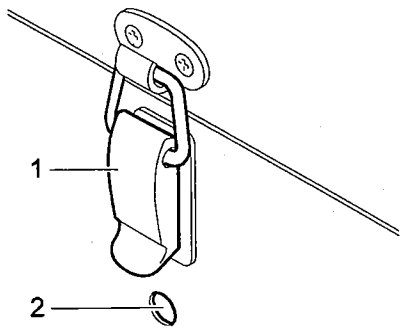
- ❑ Set the crank handle and turn it cw at the speed of the drive motor: always **1 turn every 18 seconds**
- ❑ Dry films coming out of the dryer

Case 4

Size 135 in set box, film still attached to the film cartridge

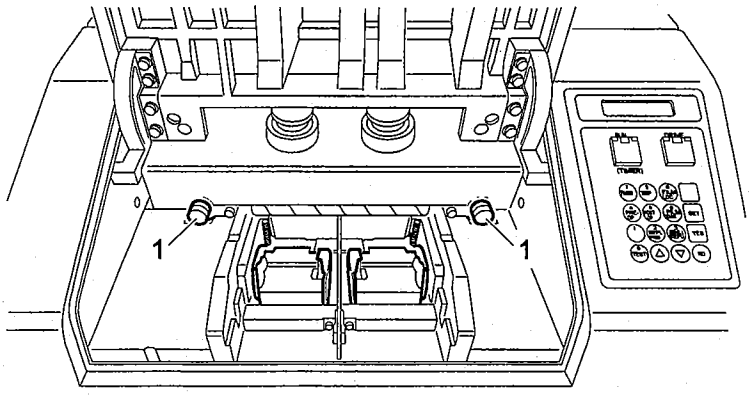
- ❑ Turn the crank handle as indicated above until a strong resistance is felt:
  Cut the film manually
- ❑ Avoid damage to the film:
  Darken the room or cover the film set box light-tight
- ❑ The lock is released in case of a power failure. Unlock the buckle (1) and open the set box cover.

  It is also possible to open the lock manually by pushing a screwdriver or a similar tool into the hole (2)



CFP32

- ❑ Press down the manual film cut buttons (1) to cut the film end



CFP33

- ❑ Remove the cartridges
- ❑ Keep on turning the crank handle and dry the films coming out of the dryer

Removing a Film Jam

▼ Turn off the power switch

- ❑ Open the top cover:
  Protect the film from scattered light so that it does not get damaged
- ❑ Pull up the rack in which the short leader is caught and pull the film out of the rack
- ❑ If there is still a film in the set box, proceed as described under *Manual film transport and manual film cut, Case 4*
- ❑ Check that the rack gear is o.k.:
  Run a test film through the machine
- ❑ If the test film is damaged, call a service technician
- ❑ If the film jam reoccurs:
  Check the film pressure solenoid (see *Status checks* in this chapter), if necessary call a service technician

Tests

The machine offers two different test modes:

1. Status checks to check 10 sensors / assemblies by the operator
2. Function tests for the service technician (see *Repair folder*)

Caution

The function tests should only be performed by service technicians as they may damage assemblies.
Some assemblies have only been conceived for a short switch-on time, e.g. the pressure solenoid for 25% per hour. If the solenoid is switched on longer, it may burn.

Calling up the Status Checks

The section *Error messages* indicates possible causes and their remedies. Some error messages require a check of the status of the sensors / assemblies concerned in order to locate the fault. This is done in the Status checks test mode.

Notes
1. The two following Tables explain how to call up the Status checks on the machines *FP 100* and *FP 200*.
2. The *Status checks - Overview* illustrates the 10 sensors / assemblies that can be checked and states the test conditions in a table.
3. The stepwise performance of the 10 tests is described under the *Error messages* that require the corresponding status check.

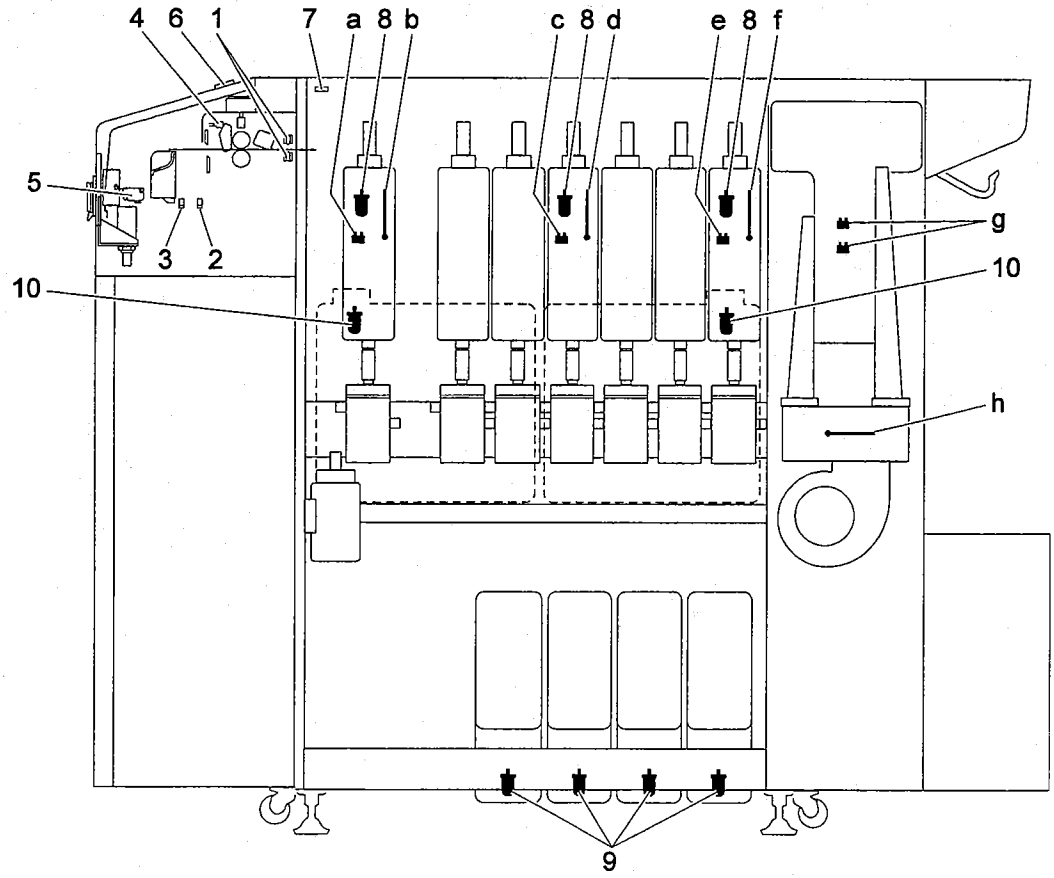
FP 100

Workstep	Perform	Display
Call up the Status checks	0 (TEST)	`Status checks`
Confirm the Status checks	YES	`Status checks` `start ? [Y/N]`
Select `Yes`: The first status check is displayed	YES	`110L/R 135L/R 120L/R` `x x x x x x`
Select the desired status check and perform it	▽ or △	see *Status checks - Overview*
Return to the operation mode	NO	`Ready for processing` `DEV:37.8°C`

FP 200

Workstep	Perform	Display
Call up the test modes	0 (TEST)	[Tests] (1) Status checks (2) Function tests (3) ROM version
Select 1: The first status check is displayed	1	[Status checks] Film sensor 110L/R 135L/R 120L/R x x x x x x
Select the desired status check and perform it	▽ or △	see *Status checks - Overview*
Return to the operation mode	NO	Ready for processing DEV : 37.8°C

Status Checks - Overview



CFP53

1 Film sensor
2 Cutter sensor LHS and RHS
3 Push roller sensor LHS and RHS
4 Leader sensor
5 Set box cover sensor
6 Switches RUN and DRIVE
7 Sensor for top cover
8 Floater switches in processing tanks DEV, FIX-2, STB-3
9 Floater switches in replenisher tanks DEV, BL, FIX, STB
10 Floater switches in effluent tanks

a DEV Thermostat
b DEV Temperature sensor
c FIX-2 Thermostat
d FIX-2 Temperature sensor
e STB-3 Thermostat
f STB-3 Temperature sensor
g Dryer thermostat
h Dryer temperature sensor

FP 100 and FP 200

Note The display texts of the FP 100 and FP 200 are the same. For this reason, only the two-line displays of the FP 100 are shown in the following.

No.	Display	Conditions
1	110L/R 135L/R 120L/R * * * * * *	1: Film provided 0: Film not provided
2	Cutter sensor L/R * *	1: Detection plate provided 0: Detection plate not provided
3	Push roller L/R sensor * *	1: Detection plate provided 0: Detection plate not provided
4	Leader sensor *	1: Detection plate provided 0: Detection plate not provided
5	Set box cover sensor *	1: Set box cover closed 0: Set box cover open
6	Switches RUN/DRIVE * *	1: Switch ON 0: Switch OFF
7	Top cover *	1: Top cover closed 0: Top cover open
8	Tank DEV FIX2 STB3 level * * *	1: Liquid in tank 0: No liquid in tank
9	Repl. tank D B F S level * * * *	1: Liquid in tank 0: No liquid in tank
10	Effluent tank A B level * *	1: Tank full 0: Tank not full

Error Messages

1. A fault occurs while the machine is ready for processing:
   The error message appears at once.
2. A fault occurs during film processing:
   The error message is displayed only after the machine has finished the film and the cover lock is unlocked.

   The following message appears also during film processing:

```
Close top cover
```

3. Several faults occur during film processing:
   When the film processing is finished, the error message that appears first concerns the last fault that occurred.
   After the fault has been removed, all other error messages are displayed in the order of their importance. This means that always the most important fault is displayed first.

Importance of Errors

```
Film cutter    L*/R*
 malfunction
```

```
Solution level down
             ####
```

```
Temp. sensor
 ####   malfunction
```

```
Temp. out of range
 ####   ?????????
```

```
Effluent tank (#)
 full
```

```
### Replenisher tank
    empty
```

```
Cutter sensor    (#)
 malfunction
```

```
Push roller (#)
 sensor malfunction
```

```
Film sensor
 malfunction    ####
```

```
Close top cover
```

Elimination of Malfunctions

Film Cutter Malfunction

Cause

If the film cutter does not cut the film end correctly at the first go, two more attempts are performed. If they are successful, work can be continued.

If the third attempt fails as well, the following error message is displayed:

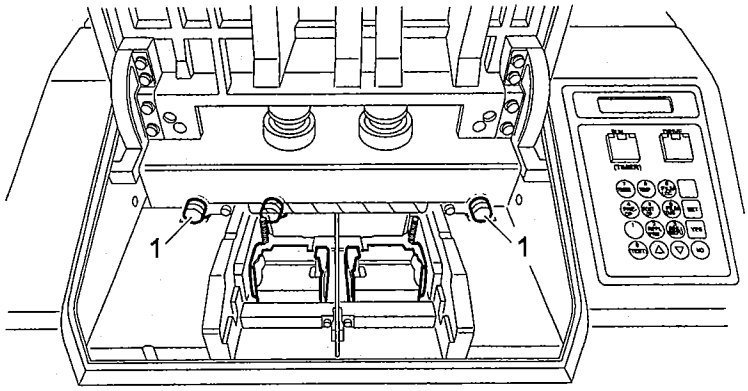
```
Film cutter   L3/R3
 malfunction
```

3 = Number of cutting attempts

The alarm sounds.

Remedy

- ❑ Stop the alarm with YES
- ❑ Avoid damage to the film:
  Darken the room or cover the film set box light-tight
- ❑ Open the set box cover, push the manual film cut buttons (1) and continue the work



CFP33

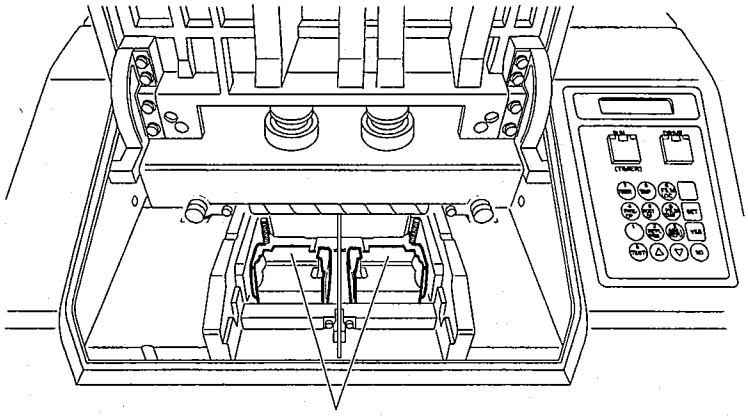
- ❑ If the film is not cut, the film cutter is defective:
  - Cut the film with a pair of scissors
  - Call a service technician
- ❑ If the film is not advanced after cutting, it has been caught in the processing rack (see *Removing a film jam*)

- ❑ Check the cutter sensor:
  Call up the status checks (see *Status checks*, *FP 100* or *FP 200*) and press
  ▽ until the following message is displayed

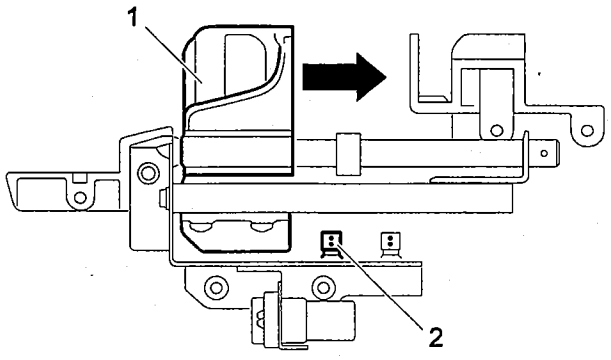
```
Cutter sensor    L/R
                 * *
```

* = 1 ON
= 0 OFF

Check	Condition: Display
Push the cartridge holder for film 135 (1) towards the front, in direction of the sensor (2)	1
Let go the cartridge holder	0



CFP50



CFP34

- ❑ Call a service technician under the following conditions:
  - The two conditions are not displayed correctly
  - The fault appears repeatedly

Solution Level down

Cause

The solution level in the indicated temperature control tank has dropped below the yellow marking.

```
Solution level down
                ****
```

**** = Tank

Remedy

The error message is cleared automatically after the fault has been removed.

- ❑ Check the level in the indicated tank and, if necessary, top up with water up to the yellow marking
- ❑ Check the hose and the pump connections for leaks:
  If they are leaking, call a service technician
- ❑ Check the floater switch:
  Call up the status checks (see *Status checks*, *FP 100* or *FP 200*) and press

  until the following message is displayed

```
Tank    DEV FIX2 STB3
level    *    *    *
```

* = 1 ON
= 0 OFF

Check	Condition: Display
Tank level reaching the yellow marking	1
Tank level down	0

- ❑ Call a service technician under the following conditions:
  - The two conditions are not displayed correctly
  - The fault appears repeatedly

Temperature Sensor Malfunction

Cause

- Cable to the temperature sensor of the indicated temperature control tank defective or short-circuited
- Temperature sensor defective

```
Temp. sensor
 ****   malfunction
```

**** = Tank

Remedy

- ❑ Clear the error message with YES
- ❑ Pull out the chemical filter and measure the solution temperature
- ❑ Call a service technician under the following conditions:
  - The set and the actual temperature do not correspond to the displayed temperature
  - The fault appears repeatedly

Temperature out of Range

Cause

Temperature not in tolerance:

DEV	37,8 °C ±0,2 °C
FIX-2	38,0 °C ±3,0 °C
STB-3	38,0 °C ±3,0 °C

```
Temp. out of range
 ****      xx.x°C
```

**** = Tank

xx.x = Temperature

Remedy

The error message cannot be cleared with YES.

- ❑ Pull out the chemical filter and measure the solution temperature
- ❑ Check the chemical filter and, if necessary, clean it or replace it (see chapter *Maintenance*)
- ❑ Check the tank level and, if necessary, top up with water up to the yellow marking
- ❑ Measure the temperature again
- ❑ Call a service technician under the following conditions:
  - The set and the actual temperature do not correspond to the displayed temperature
  - The fault appears repeatedly

Effluent Tank full

Cause

The indicated effluent tank is full.
Capacity: 2 x 6,7 ℓ

```
Effluent tank    (*)
full
```

* = A or B

Remedy

The error message is cleared automatically after the fault has been removed.

- ❑ Stop the alarm with YES
- ❑ Check the effluent tank and empty it, when necessary (see chapter *Operation, Emptying the effluent tanks*)
- ❑ If the effluent tank is not full, check the sensor:
  Call up the status checks (see *Status checks, FP 100* or *FP 200*) and press ▽ until the following message is displayed

```
Effluent tank     A B
level             * *
```

* = 1 ON
  = 0 OFF

Check	Condition: Display
Effluent tank not full	1
Effluent tank full	0

- ❑ Call a service technician under the following conditions:
  - The two conditions are not displayed correctly
  - The fault appears repeatedly

Replenisher Tank empty

Cause

The indicated replenisher tank is empty.
Capacity: 10 ℓ

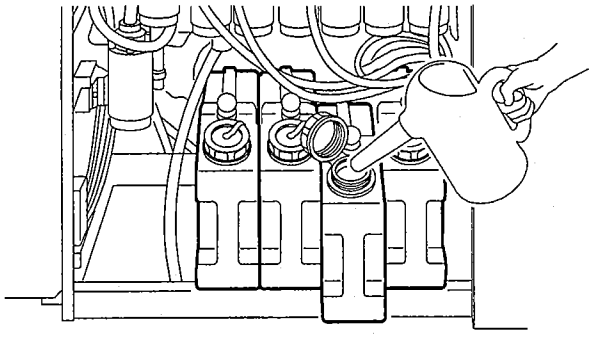
```
*** Replenisher tank
    empty
```

*** = DEV, BL, FIX or STB

Remedy

The error message is cleared automatically after the fault has been removed.

- ❑ Stop the alarm with YES
- ❑ Check the replenisher tank and, if necessary, fill in chemistry



CFP55

- ❑ If the replenisher tank is not empty, check the sensor:
  Call up the status checks (see *Status checks*, *FP 100* or *FP 200*) and press ▽ until the following message is displayed

```
Repl. tank    D B F S
level         * * * *
```

* = 1 ON
= 0 OFF

Check	Condition: Display
Replenisher tank not empty	1
Replenisher tank empty	0

- ❑ Call a service technician under the following conditions:
  - The two conditions are not displayed correctly
  - The fault appears repeatedly

Cutter Sensor Malfunction

Cause

The cutter sensor remains active for 5 seconds or longer.

```
Cutter sensor     (*)
 malfunction
```

* = L or R (LHS or RHS)

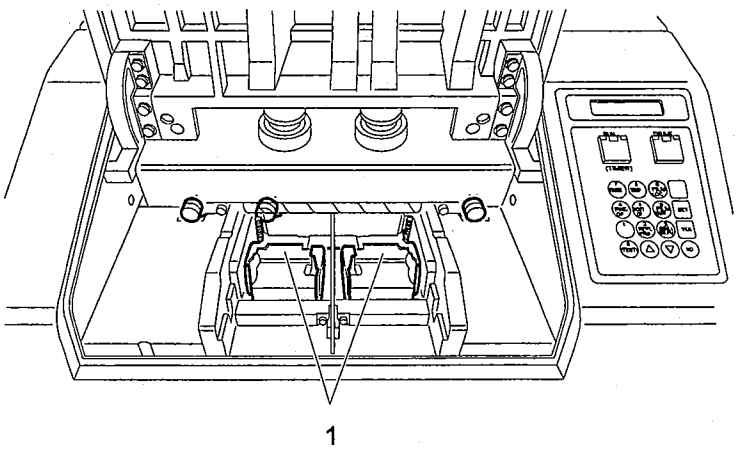
Remedy

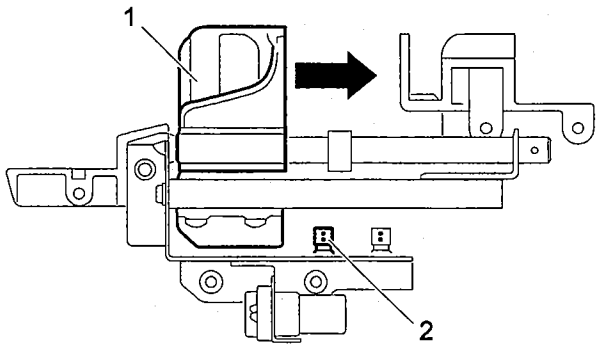
- ❑ Clear the error message with YES
- ❑ Check the cutter sensor:
  Call up the status checks (see *Status checks*, *FP 100* or *FP 200*) and press ▽ until the following message is displayed

```
Cutter sensor     L/R
                  * *
```

* = 1 ON
  = 0 OFF

Check	Condition: Display
Push the cartridge holder for film 135 (1) towards the front, in direction of the sensor (2)	1
Let go the cartridge holder	0





CFP50 / CFP34

- ❑ Call a service technician under the following conditions:
  - The two conditions are not displayed correctly
  - The fault appears repeatedly

Push Roller Sensor Malfunction

Cause

The push roller sensor remains active for 10 minutes or longer.

```
Push roller      (*)
 sensor malfunction
```

* = L or R (LHS or RHS)

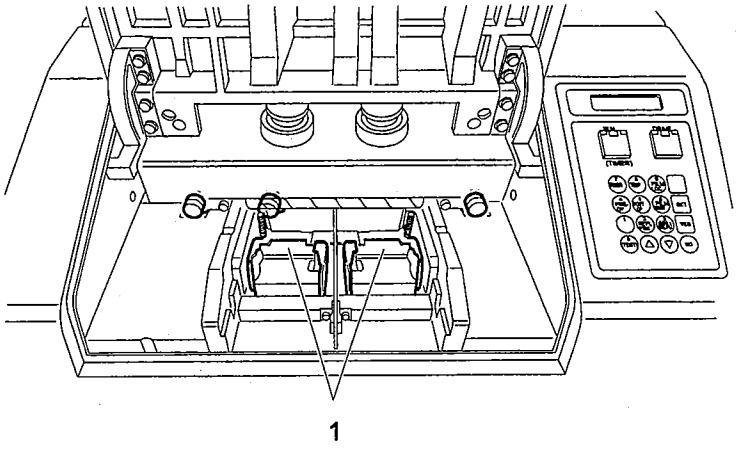
Remedy

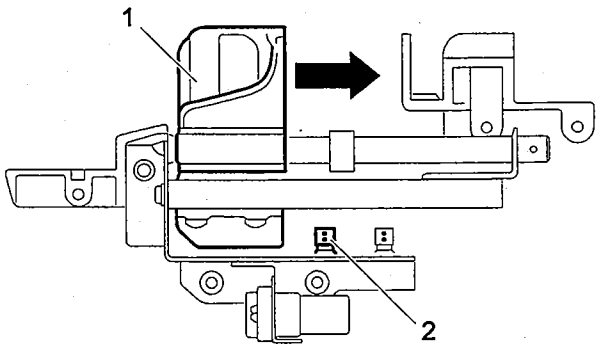
- ❑ Clear the error message with YES
- ❑ Check the push roller sensor:
  Call up the status checks (see *Status checks*, *FP 100* or *FP 200*) and press ▽ until the following message is displayed

```
Push roller      L/R
sensor           * *
```

* = 1 ON
  = 0 OFF

Check	Condition: Display
Push the cartridge holder for film 135 (1) towards the front, in direction of the sensor (2)	1
Let go the cartridge holder	0





CFP50 / CFP34

- ❑ Call a service technician under the following conditions:
  - The two conditions are not displayed correctly
  - The fault appears repeatedly

Film Sensor Malfunction

Cause

The film sensor remains active for 6 minutes and 20 seconds or longer.

```
Film sensor
 malfunction     ****
```

**** = L (LHS) or R (RHS) and Film size

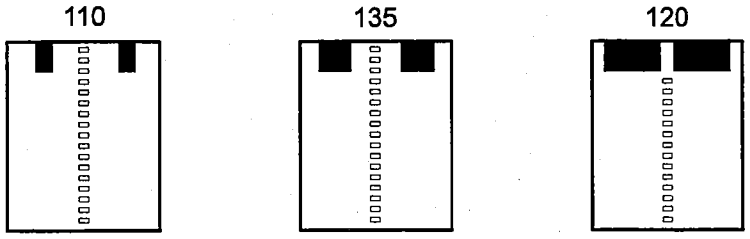
Remedy

- ❑ Clear the error message with YES
- ❑ Check the film sensor:
  Call up the status checks (see *Status checks*, *FP 100* or *FP 200*) and press ▽ until the following message is displayed

```
110L/R 135L/R 120L/R
   * *    * *    * *
```

* = 1 ON
= 0 OFF

Attach films of these sizes or a tape of the appropriate width to the short leader and put the latter in the machine.



CFP52

Check that 1 is displayed for the right film size when the short leader passes the sensor.

Check	Condition: Display
Film detected	1
No film detected	0

- ❑ Call a service technician under the following conditions:
  - The two conditions are not displayed correctly
  - The fault appears repeatedly

Close top Cover

Cause

The top cover is not put on or not properly closed.

```
Close top cover
```

Remedy

The error message is cleared automatically after the fault has been removed.

- ❑ Close the top cover
- ❑ If the message remains displayed, check the sensor:
  Call up the status checks (see *Status checks*, *FP 100* or *FP 200*) and press

  until the following message is displayed

```
Top cover
                  *
```

* = 1 ON
= 0 OFF

Check	Condition: Display
Cover closed	1
Cover missing or open	0

- ❑ Call a service technician under the following conditions:
  - The two conditions are not displayed correctly
  - The fault appears repeatedly

■

This register contains two chapters:

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2. FP 200

Please remove the chapter not needed from the folder.

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